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AMA ANNUAL MEETING WILL BE HELD IN CHICAGO, JUNE 9-13

Contents . . .

HYPOTHYROIDISM IN CHILDHOOD
Lawson Wilkins, M.D. 1
THE MANAGEMENT OF ACUTE VENOUS THROMBOSIS
Harris B. Shumacker, Jr., M.D. 4
THE STATUS OF ANTACID ULCER THERAPY
Gordon McHardy, M.D., and Donovan C. Brown, M.D. 9
CURRENT DRUGS USED IN THE TREATMENT OF HYPERTENSION
W. W. Taylor, M.D., and Wilson Julich, M.D. 12
SELF-RETAINING RETRACTORS FOR SCAPULA AND SACROSPINAL MUSCLE BUNDLES DURING THORACOPIASTY
Lee R. Reid, M.D. 15
THE USE AND MISUSE OF HORMONES IN THE MENOPAUSE
Virginia Stacy, M.D. 17

INDEX TO VOL. 29 IN THIS ISSUE

what it

takes to develop

new drugs

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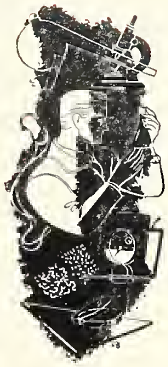

The steps from the original discovery of a therapeutic agent to its practical clinical application often are long and complex. Chemists, physicists, engineers, biologists, and other qualified scientists all are essential in developing test tube discoveries into useful medicinals. In the Lilly Research Laboratories, teams of specialists are involved in both fundamental and developmental pharmaceutical and biological research.

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(Brand of Methantheline Bromide)

22 Published Reports Covering Treatment of 1443 Peptic Ulcer Patients with Banthīne

Comprising the reports published in the literature to date which give specific facts and figures of the results of treatment

AUTHORS	No. of Patients	Chronic, Resistant to Other Therapy	TYPES OF ULCERS				RELIEF OF SYMPTOMS (Chiefly Pain)				Surgery or Complications[1]	Side Effects Requiring Discontinuance of Drug[2]	EVIDENCE OF HEALING			
			Duodenal	Jejunal	Stomal	Gastric	Good	Fair	Poor	No Report			Complete	Moderate	None	No Report
Grimson, Lyons, Reeves	100	100	93	7			80	11	4		5		47		19	29
Friedman	15	15	14			1	5		4	6[3]			2			13
Bechgaard, Nielsen, Bang, Gruetund, Tobiassen	26	26	21			5	16	4	6				8	6	12	
McHardy, Browne, Edwards, Marek, Ward	162		162				136	12	11		3	1	14	9	7	129
Segal, Friedman, Watson	34	34	34[4]				14	13			7	2	5		8	14
Brown, Collins	117	99	117				97	7	8		5	8	55	9	8	40
Asher	77		65		7	5	52	9	16			16		9	21	47
Rodriguez de la Vega, Reyes Diaz	5	4	5				4		1					3	2	
Winkelstein	116	116	102	8		6	102		14				53		18	45
Hall, Hornisher, Weeks	18	18	18				11		1	6[5]			18			
Maier, Meili	38	38	24			14[6]	27	7	4[7]				10	2	5	21
Meyer, Jarman	25	18	25				21		4							25
Poth, Fromm	37	37	37				33	3	1				33	3	1	
Plummer, Burke, Williams	41	41	41				36		5				38		3	
McDonough, O'Neil	104	100	104				63	10	31			11	4		11	89
Broders	60	60	58		1	1	35	19	6				10	1	49[8]	
Legerton, Texter, Ruffin	11		11				11									11
Holoubek, Holoubek, Langlord	76	69	76				35	27	10		4	10	26		10	36
Dgborn	42		39	2		1	42[9]									42
Shaiken	48	48	48				33	10	3		2		33	10	3	
Johnston	145	145	145				143		2			2	143		2	
Rossett, Knox, Stephenson	146		141			5	146					4[10]	53			93
TOTALS	*1443*	*968*	*1380*	*17*	*8*	*38*	*1142*	*132*	*131*	*12*	*26*	*54*	*552*	*52*	*179*	*634*
PERCENTAGES		67.8	95.6	1.2	0.6	2.6	81.3	9.4	9.3			3.7	70.5	6.6	22.9	

1. Not included in tabulations.
2. Included in "Relief of Symptoms" as "Poor" and in "Evidence of Healing" as "None."
3. Four had no symptoms when Banthine therapy was begun.
4. Of which seven were penetrative lesions and five partially obstructive.
5. No symptoms were present in four.
6. Two with symptoms only; no demonstrable ulcer.
7. Three were psychopathic patients and one had a ventricular ulcer of the lesser curvature.
8. Roentgen findings after treatment period of two weeks; forty-seven had duodenal deformity.
9. All returned to work within a week.
10. In these four, after relief of symptoms, Banthine was discontinued because of urinary retention.

During the past two years, more than 200 references to Banthīne therapy in peptic ulcer and other parasympathotonic conditions have appeared in medical literature. Of these reports, 22 have presented specific facts and figures on the results of treatment in a total of 1,443 peptic ulcer patients, 67.8 per cent of whom were reported as chronic or resistant to other therapy. These results are tabulated above and show:

"Good" relief of symptoms was obtained in 81.3 per cent of the 1,405 patients on whom reports were available.

"Complete" evidence of healing was obtained in 70.5 per cent of the 883 patients on whom reports were available.

In all but 9.7 per cent, relief of pain was "good" or "fair." In all but 22.9 per cent, evidence of healing was "complete" or "moderate."

During treatment, 26 patients required surgery or developed complications other than ulcer which required discontinuance of the drug before results could be evaluated.

Of the remaining 1,417 patients, only 3.7 per cent experienced side effects sufficiently annoying to require discontinuance of the drug.

*Volume containing complete references, with abstracts of 39 additional reports, will be furnished on request by

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Hypothyroidism in Childhood*

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THYROID DEFICIENCY may be present from birth or even during uterine life and is then known as **cretinism**; or it may develop later and is then called **acquired or juvenile hypothyroidism.** In most parts of the world the congenital type is due to defective development or absence of the thyroid gland. In regions of iodine deficiency where endemic goiter occurs, cretins may have a thyroid gland or even a goiter but because of absence of iodine the gland is unable to synthesize thyroxin.

The diagnosis of hypothyroidism during childhood is frequently missed. Perhaps even more often, entirely different conditions are mistaken for hypothyroidism. This is probably due to the fact that the physician looks for the grotesquely ugly, myxedematous creature pictured in textbooks as the "typical cretin." To make the diagnosis correctly one must have a full understanding of all the physiologic and metabolic changes caused by thyroid deficiency and of the effects of these functional changes upon growth and development. There is no single sign or symptom and no specific laboratory test which establishes the diagnosis. If, however, the **entire** clinical picture is carefully studied and evaluated with a true understanding of the changes which thyroid deficiency causes, the diagnosis can usually be made correctly even without complicated laboratory studies.

The signs of thyroid deficiency can be divided into three groups, as shown in Table 1, 1) function changes, 2) retardation of growth and development, 3) "myxedematous" changes of the subcutaneous tissues, skin and hair.

TABLE 1
DIAGNOSTIC SIGNS OF HYPOTHYROIDISM

Functional Changes

Physical and mental torpor
Diminished circulation
- Peripheral circulation poor—
    - skin pale, grayish, cool
- Pulse rate X, pulse pressure decreased

Diminished intestinal activity—constipation
Poor muscle tone
Diminished sweating (variable)
Metabolic and chemical changes

Retardation of Growth and Development

Height—stunted
Skeletal proportions upper/lower segments—infantile
Osseous development—retarded
- Epiphysial dysgenesis

Dental development—retarded and defective
Brain development—retarded

Other Changes

Subcutaneous and other tissues—myxedematous
Skin—thickened and coarse
Hair—coarse, dry, brittle

Functional Changes. If thyroid deficiency exists it must always be accompanied by functional changes. There is alway **physical and mental sluggishness** so that the child is quieter, slower in his activity, and less animated or interested in his environment than normal. There is **impairment of the circulation.** The sluggishness of the peripheral circulation usually causes a **grayish pallor of the skin and lips,** often accompanied by a dusky circulatory mottling on exposure to cold. The skin feels cool. The pallor of the cheeks and lips often leads to the mistaken diagnosis and treatment of anemia, in spite of the fact that the hemoglobin is not very low. Sometimes there is a faint yellowish color due to carotinemia. The pulse may be somewhat slow. The **pulse pressure is** usually quite small. Diminished intestinal activity leads to **constipation.** Poor muscular tone may be responsible for umbilical hernia and abdominal distension.

Retardation of Growth and Development. Whenever thyroid deficiency exists during infancy or childhood, it retards markedly the growth and development which are going on at the time. However, the clinical picture which results depends upon a) the time of life when deficiency develops, and b) its duration before treatment is begun. When congenital cretinism remains untreated during the first few years of life, when developmental changes normally progress so rapidly, the persistence of extreme infantilism becomes rapidly obvious. When thyroid deficiency does not begin until later in the juvenile period, the patient will not show the same extremely infantilistic characteristics but will remain more or less at the developmental level which he already has attained; and a number of years may pass before his failure to progress is noticed. In fact, if hypothyroidism is of quite short duration, delay of growth and development cannot be detected and the diagnosis may depend entirely upon the functional signs described above.

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* Presented at the sixty-third annual session of the Mid-South Postgraduate Medical Assembly, Memphis, Tenn., Feb. 1952.

The retardation which is brought about by hypothyroidism affects all the processes of growth and development and is not confined to a single system. Linear growth, that is, **height**, is always stunted. The **skeletal proportions** remain relatively infantile, that is, they do not mature as they normally do when the lower segment grows more rapidly than the upper. The **naso-orbital configuration** also fails to mature normally with development of the bridge of the nose. The **osseous development,** that is, the time of ossification of the epiphyses, carpal and tarsal bones as noted by x-ray, is retarded and the **dental development** is delayed. When thyroid deficiency exists before the third or fourth year, the **brain development** is markedly retarded and sometimes permanently damaged. Interestingly enough the occurrence of juvenile hypothyroidism later usually does not impair the brain development (which is probably already completed) and the child may have a normal I.Q. but be sluggish in his reactions.

It is important to remember that retardation of all these phases of development just discussed may be brought about by many conditions other than hypothyroidism—chronic diseases, cardiac disorders, etc., or merely constitutional factors. As stated previously, if hypothyroidism is the cause of the retardation there must be also functional signs of this deficiency. Retardation of epiphysial development is one of the most definite and clear-cut signs of developmental retardation which can be measured objectively by x-ray. At one time some observers thought it was a specific sign of hypothyroidism. This is not true, because it may be caused by many other conditions. A more definite evidence of thyroid deficiency than osseous retardation is **epiphysial dysgenesis** which causes the epiphyses as shown by x-ray to appear stippled, fragmented or porous. The epiphyses which are affected depend upon the time of onset of the hypothyroidism and its duration before treatment. Hypothyroid epiphysial dysgenesis can be readily distinguished from osteochondritis deformans (Perthes' or Kohlers' disease) by the fact that it is not painful and that it involves multiple centers. It may occasionally be simulated by certain atypical cases of chondrodystrophy.

Myxedematous Changes. Hypothyroidism may exist for months or years before the puffiness, coarsening of the features and other signs of extensive myxedema become apparent. Likewise, the hair is often not coarse and brittle and the skin may not be especially dry or rough. It should be emphasized that **the hypothyroid patient is practically never obese,** although he may be overweight due to deposition of myxedematous fluids. Then his tissues are loose and flabby, not firm and tense as in the obese patient. The reason that the hypothyroid patient does not become obese in spite of the lower metabolic rate and sluggish activity is because he has a small appetite and eats very little.

Laboratory Aids. The basal metabolic rate is not a laboratory aid; it leads to more mistaken diagnoses than any other procedure. This is particularly true in childhood, partly due to technical difficulties, partly because it is difficult to compare to the usual standards when there are distortions of growth and development. There are children, and adults too, who have low B.M.R.'s without having any thyroid deficiency.

The finding of a high **serum cholesterol** (over 300 mg.) in the untreated patient is good corroborative evidence of thyroid deficiency when other signs are present. It is not always elevated, particularly in the younger infants. The determination of the serum cholesterol is of considerable diagnostic aid especially when the patient is first seen while receiving thyroid therapy. Under treatment all the functional signs of thyroid deficiency may have been obliterated and the patient may have been brought to a normal level of growth and development. Under these circumstances the only way that a diagnosis can be made is to withdraw all thyroid therapy and wait for a relapse to occur. The clinical signs recur very slowly and may be difficult to interpret for many months. It is of considerable value to determine the serum cholesterol before stopping treatment and to measure it at intervals during the next 2 to 3 months. When there is true thyroid deficiency the cholesterol nearly always rises to high levels within this time whereas it does not increase significantly in the euthyroid patient who has been treated needlessly.

Measurement of the **uptake of radioactive iodine** by the thyroid gland enables one merely to determine whether the thyroid gland is present and is capable of taking up and fixing iodine but it does not show whether the gland is capable of converting the iodine into thyroxin. The athyrotic patient shows no uptake, but the goitrous cretin has a high uptake. Accordingly the method is of value in studying certain problems concerning thyroid disease but is not itself diagnostic of hypothyroidism. The determination of the **serum protein-bound iodine** is a more direct measurement of thyroid function but this is a difficult chemical method which is available in relatively few laboratories.

In short, the **diagnosis of hypothyroidism** requires understanding of the effects of thyroid hormone on the body and of the results of its absence, and second, intelligent clinical acumen in evaluating the numerous functional signs and in correlating the evidences of retarded development with the chronology of the disorder. X-ray studies of the bones, particularly if epiphysial dysgenesis is present, and determination of the serum cholesterol are valuable aids in diagnosis but are not in themselves diagnostic. Studies of uptake of radioiodine or the concentration of serum protein-bound iodine are of value but not essential. The B.M.R. is frequently misleading. The spectacular therapeutic response of the hypothyroid patient to relatively small doses of desiccated thyroid (1 to 3 grains daily, as described later) is the most conclusive proof of the disorder. When a patient is seen while receiving treatment, it is usually necessary to withdraw therapy to establish the diagnosis. Determination of the serum cholesterol before and during this period is helpful.

Treatment. Desiccated thyroid is the only treatment required. One should adhere to standardized U.S.P. preparations. It is wise to begin treatment with small doses and to increase the dose every 3 weeks until the optimal maintenance dose is attained. In young infants we begin with ¼ grain daily and increase by increments of ¼ grain every 3 weeks up to ¾ to 1½ grains daily. In older children one may begin with ½ grain and increase up to 2 to 3 grains daily. No patient ever needs more than 3 grains daily. In childhood it is important to maintain the patient in a euthyroid state in order to bring about normal growth and development. In adults, who have myocardial or vascular damage, one must be more cautious, and sometimes a slightly hypothyroid state is more desirable. With adequate treatment there is marked improvement in the patient's activity, circulation, color, appetite and intestinal functions within a few weeks. If these do not occur one should suspect the diagnosis. One should check the height, osseous development and serum cholesterol from time to time to determine whether sufficient thyroid is being given to bring about normal growth and development.

The **prognosis** is good for normal physical growth and development. The outlook is less uniformly good for mental development. Patients with acquired juvenile hypothyroidism are usually mentally normal. In cretinism long delay in treatment may lead to permanent brain damage. Many cretins, if adequate treatment is begun in the first 1 or 1½ years of life, attain normal mental development. In some, however, even in the early months of life there is either a congenital brain defect or an injury from the thyroid deficiency which cannot be repaired. All patients deserve a thorough and careful trial with adequate therapy. If sufficient therapy proves that the patient has a permanent brain defect and makes him wild and uncontrollable, it is sometimes better to decrease the dose so as to allow him to remain mildly hypothyroid.

Unenlightened people are notoriously confident that they have a monopoly on all truth. . . . . Robinson

The greatest friend of truth is Time, her greatest enemy is Prejudice, and her constant companion is Humility. . . . . . . Colton

The Management of Acute Venous Thrombosis[*]

Harris B. Shumacker, Jr., M.D.
Indianapolis, Indiana

The management of acute venous thrombosis necessitates prompt recognition of the condition and institution of proper therapeutic measures without delay. There is a definite advantage in dividing cases of venous thrombosis into two groups, thrombophlebitis and phlebothrombosis. The effort to differentiate these two types of disorders is advantageous not only because of the greater hazard of embolism in cases of phlebothrombosis and of annoying sequelae after thrombophlebitis, but also because the diagnosis of phlebothrombosis is so difficult that the condition will frequently be overlooked unless there is a constant awareness of its possible occurrence and of the paucity of signs and symptoms which may accompany it.

Thrombophlebitis, on the other hand, is ordinarily recognized with ease, whether it involves superficial veins or deep venous pathways. In superficial phlebitis either the affected vein itself may be palpated as a firm, tender cord, or there is present an elongated ovoid area of cellulitis overlying the involved segment of vein. Usually there is no edema at all or any edema present involves only the superficial tissues distal to the site of venous occlusion. Swelling of the limb as a whole should put one on guard concerning possible coexistence of deep venous thrombosis. In thrombophlebitis of the deep veins the patient complains of pain and tenderness in the region of the affected segment and of swelling of the limb. The patient may have mild or moderate elevation of temperature, pulse and leukocyte count and, on occasion, rather high fever, but many cases are not associated with any significant increase of temperature, pulse rate or leukocyte count. The swelling of the limb is variable and depends upon the location of the venous occlusion and the limitation or diffuseness of involvement of collateral venous pathways. There is marked tenderness to keep palpation over the involved segment of vein. The limb in general tends to be warmer than the contralateral one, though quite often the homolateral foot exhibits obvious vasoconstriction. Thrombophlebitis is characterized by apparent evidence of inflammatory reaction in and about the occluded veins.

In contrast, phlebothrombosis presents no clear signs of inflammation or only minimal, suggestive signs. The commonest variety, with involvement of the deep veins of the calf, is often unattended by any symptoms at all, although some patients notice a mild aching in the calf. Very often no edema is evident, though sometimes in the absence of apparent swelling enlargement may de demonstrated if daily measurements of calf circumference have been made beforehand. In still other cases there may be slight but definite edema of the foot and ankle and perhaps of the supramalleolar area. The most reliable sign pointing to the presence of deep venous thrombosis of the calf veins is tenderness on gentle, deep pressure over the calf itself, made either posteriorly or by compression of the calf muscles with medial and lateral pressure. Some pain may be elicited on very deep pressure in normal individuals and, consequently, it is important to bear this in mind in any suspected case of phlebothrombosis and to compare the affected with the unaffected extermity. The pain felt on dorsiflexion of the foot which Homans described is a valuable confirmatory sign. One must remember, however, that any patient who has shortening of the tendo Achilles or paresis of the extensors of the feet may normally experience discomfort on forcible dorsiflexion of the foot. When quiet, bland thrombosis involves larger venous channels significant swelling is apt to develop. For example, in thrombosis of the femoral vein the edema usually extends up to the knee. There may be minimal tenderness on pressure over the femoral vein but the marked tenderness present in active thrombophlebitis is absent.

I shall divide my discussion of treatment into three parts—superficial thrombophlebitis, deep thrombophlebitis, and phlebothrombosis. An episode of acute thrombophlebitis of a superficial vein entails relatively little danger to the patient and is not commonly followed

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[†] From the Department of Surgery, the Indiana University Medical Center, Indianapolis, Indiana. Aided in part by a contract between the Office of Naval Research, Department of the Navy, and Indiana University.

[*] Presented at the Sixty-third Annual Session of the Mid-south Postgraduate Medical Assembly, Memphis, Tennessee, February 12-15, 1952.

by any sequelae of any consequence. The process generally subsides relatively rapidly if one puts the patient to bed and elevates the affected limb. Embolism is so unlikely in this condition that it is not necessary either to carry out proximal vein ligation and division or to give anticoagulant therapy. Local warm compresses may perhaps be of some help, though their value is not clearly established. It must be remembered that superficial thrombophlebitis sometimes occurs in association with deep venous thrombosis. It is important to establish the correct diagnosis in cases of this sort and to use anticoagulants in addition to rest and elevation. The spread of thrombophlebitis to involve other superficial tributaries or deep venous channels is unlikely and its occurrence is usually limited to neglected cases in which adequate treatment has not been instituted early. Occasionally in cases of very extensive superficial thrombophlebitis, and particularly when treatment is begun late, fear of such spread may warrant the use of anticoagulant therapy. Sometimes thrombophlebitis of superficial veins is associated with evident vasoconstriction of the foot or hand; in these cases interruption of sympathetic impulses to the part, either by anesthetization of the appropriate portion of the sympathetic chain or by use of an autonomic blocking agent, appears to be of definite benefit in hastening the subsidence of the inflammatory process and in giving the patient quicker relief from his discomfort.

There are two circumstances in which the affected vein should be ligated and divided proximal to the area of involvement. One is the case of the patient who has had recurrent attacks of thrombophlebitis in the same vein. Such recurrent attacks usually take place in the major saphenous vein. In my experience, they are quite apt to cease after proximal division of the vein, combined with rest and elevation of the extremity until the process has subsided completely. The second example in which proximal ligation is mandatory is the case of septic thrombophlebitis with bacteremia. One naturally supplements such surgical treatment with appropriate antibiotic therapy, but there is no doubt that proximal division adds safety to the patient and insures a more prompt recovery. Except for cases of septic thrombophlebitis antibiotics and chemotherapeutic agents add nothing to the treatment of any of the thrombotic disorders.

which the phlebitic process is evident now in one part and again in other portions of the body, it is important to establish or rule out the presence of thromboangiitis obliterans as the underlying cause. It has commonly been the policy not to treat patients with acute manifestations of thromboangiitis obliterans by immediate sympathetic denervation. However, I have treated a number of patients who have had persistent painful thrombophlebitis associated with this disease, unrelieved by rest and abstinence from tobacco, who have experienced prompt relief of pain and rapid subsidence of the phlebitic process immediately following operative sympathetic denervation. This is a worthwhile procedure in selected cases. Sympathectomy appears to diminish the likelihood or recurrence of phlebitis in the denervated extremity though it certainly cannot be looked upon as a certain preventative. It has no effect, of course, in forestalling future episodes of phlebitis in other portions of the body. Migratory phlebitis is difficult to manage, whether it is due to thromboangiitis obliterans or is of unknown etiology. The best available method of management is the use of dicumarol over an indefinite period of time. Some patients cease to have attacks under such treatment, while others continue to have recurrences.

The patient with deep thrombophlebitis should be placed in bed with the foot of the bed elevated. Elevation of the affected extremity is an essential part of the treatment and is much better accomplished by elevating the foot of the bed and keeping the upper part of the body at a lower level than by simply placing pillows beneath the involved limb. I have often seen patients sitting in a sort of jack-knife position with the heart level above that of the feet even though the affected extremity may be elevated upon pillows or the foot of the bed raised upon blocks. Such a position is valueless, of course, since venous drainage is facilitated only by raising the limb above heart level. A foot-board should be used in order to keep the bedclothes off the feet. I can see no rationale in the use of compression dressings during this acute phase. It also seems to me that there is no objectively proven benefit from the use of hot applications or heat lamps.

As soon as the diagnosis of deep thrombophlebitis is established, the patient should be placed upon active and intense anticoagulant therapy. Such treatment should be started with heparin since the action of this drug is immediate. It is probably preferable to administer it continuously by means of an intravenous drip, the concentration of heparin in the solution and the rate of flow being regulated according to the patient's response as determined by frequent measurement of the coagulation time. However, one does not have to use the continuous intravenous route for administering heparin. Excellent results can be obtained by the intermittent injection of aqueous heparin solution either intravenously, intramuscularly or subcutaneously. Of these methods I prefer the intravenous route or the very careful subcutaneous introduction of the solution through a very fine needle. Ordinarily an adult patient does well on about 50 mgm. every four hours, or, better still, about 40 mgm. every three hours. Various sorts of depository heparin sometimes give adequate prolongation of coagulation time over a long period. The great variability in response from patient to patient and from time to time in the same patient, however, has led me to abandon their use. Should bleeding occur as the result of heparin therapy, the coagulation time can be quickly restored to normal by administration of protamine or toluidine blue. If necessary, blood transfusions may also be used.

Before starting treatment with heparin it is advisable to withdraw blood for a prothrombin determination and to institute treatment with dicumarol, or one of the dicumarol-like agents. The use of heparin can then be discontinued when the prothrombin activity has been lowered to a satisfactory level. The employement of drugs to depress the prothrombin content of the blood is attended by danger unless its administration is carefully regulated by daily determination of prothrombin time. The drug should never be given on any day until after the prothrombin time has been determined. These agents should not be used in cases of significant hepatic or renal damage, in patients with lesions likely to bleed under intensive anticoagulant therapy, and whenever treatment is being carried out in circumstances which do not permit daily accurate estimation of prothrombin activity. While heparin is being given it is advisable to draw blood samples for testing before, rather than after, each dose of the drug since a very marked prolongation of coagulation time does influence the prothrombin test, even though moderate increases in coagulation time do not affect the prothrombin determination. An effort is made to keep the prothrombin level around 20 or 30 per cent of the normal. Generally 300 mgm. of dicumarol are given on the first day and 200 mgm. on the second day if no significant drop in prothrombin per cent has occurred. Usually by the end of 48 or 72 hours there is a fairly marked depression of prothrombin activity and the daily requirement thereafter, though varying widely from patient to patient and sometimes from time to time in the same patient, generally requires the administration of 50, 75 or 100 mgm. of the drug. With such careful control I have not encountered any fatal or alarming reactions. Rarely a patient will develop some evidence of bleeding, usually manifested by the appearance of microscopic blood in the urine, or by petechial hemorrhages. Under such circumstances the drug is withdrawn and large doses of vitamin K, or still better of vitamin K_1 or K_1 oxide, are administered. If the situation is more alarming, transfusions of whole blood should also be given. I have recently been using tromexan instead of dicumarol. This drug is comparable in effectiveness and has the additional advantage that it brings about a more rapid reduction in prothrombin per cent to the desired level; this is usually accomplished in from 24 to 36 hours. The dosage of tromexan is roughly 4 or 5 times as great as that of dicumarol. Intensive anticoagulant therapy should be continued all through the period during which the patient is kept in bed and for several days after he has become fully ambulatory. Anticoagulant therapy has as its aim the prevention of propagation of the thrombus—presumably the chief factor responsible for embolism in these cases where the primary thrombus is relatively well fixed to the vein wall by the inflammatory reaction—as well as the prevention of extension of the thrombophlebitic process to involve other venous tributaries. Altogether it is a highly satisfactory method of treatment, though failures are met with on rare occasions.

Quite commonly there is obvious evidence of vasoconstriction in the homolateral foot in cases of acute deep thrombophlebitis. Whenever the patient has marked swelling, pain and tenderness, and particularly if there is evidence of vasoconstriction, blocking of sympathetic impulses to the part appears to be effective in hastening subsidence of the phlebitis, edema, pain and tenderness. One may inject procaine into the region of the sympathetic chain or may use one of the autonomic blocking agents. Though the latter seems to be slightly less effective than the former, there is much to be said for its use in this particular circumstance in preference to direct anesthetization of the sympathetic chain. For one thing, its administration is simpler and does not involve moving the patient into a rather uncomfortable position. For another, such patients are being treated with anticoagulants and there is some slight hazard of a hematoma resulting from the introduction of a long needle into the paravertebral area.

It should be emphasized that not only is early and intensive treatment essential in the proper management of acute thrombophlebitis, but that careful attention to the patient must be continued until he is fully recovered. As soon as the patient has lost his edema, pain and tenderness, he can be made ambulatory. When he is first allowed out of bed he should have the affected limb securely supported with an elastic bandage or a properly fitted elastic stocking and he should be allowed up only while he is actively walking about and using effectively his large muscles. Contraction of these muscles contributes greatly to proper venous return. He should not be permitted to sit with his legs dependent or to stand quietly. As soon as he has become tired of walking he should return to his bed, the foot of which is still kept elevated. The same care should be exercised during succeeding days when he will be walking more and more. After a number of days he may be allowed to sit but should be warned to exercise his lower extremities almost continuously by extending and flexing his toes and moving his feet in all directions. Anticoagulant therapy may then be discontinued and the patient discharged to his home with the advice that he must continue to use snug elastic support for at least a month or two after all edema has subsided, to rest with his limb elevated periodically during the day whenever he experiences fatigue or aching of the extremity or a sense of swelling, and to avoid sitting quietly or standing still for a long period of time.

It is my opinion that proximal venous ligation is rarely indicated in deep thrombophlebitis. One exception is the case of septic thrombophlebitis with bacteremia. Another is the patient who has had pulmonary embolism while under adequate anticoagulant therapy. Still another exception is the case in which pulmonary embolism is thought to constitute a real threat and in which anticoagulant therapy cannot be utilized for one reason or another. As an example I may cite the case of patient who has undergone a suprapubic cystotomy as the first stage in the enucleation of an adenoma of the prostate and who has developed thrombophlebitis after the operation and has perhaps, in addition, had a non-fatal pulmonary embolism. It is perfectly apparent that the subsequent enucleation of the prostate will be attended by a certain danger of embolism and that anticoagulant therapy cannot be carried out during such a procedure or in the immediate postoperative course. In a patient of this sort it would surely be the part of wisdom to carry out proximal vein ligation before the second operation.

It does not seem to me that the treatment of phlebothrombosis is nearly so clear-cut as the treatment of thrombophlebitis. To be sure, it seems well established that patients with phlebothrombosis should have the same basic care as those with thrombophlebitis—rest and elevation of the limb and later the most careful attention to use of elastic support and avoidance of quiet sitting and standing until recovery is complete. It is also evident that sympathetic blockade rarely if ever has a place in the treatment of phlebothrombosis. The uncertainty in management stems from lack of convincing evidence concerning the relative value of anticoagulant therapy, on the one hand, and proximal vein ligation, on the other. From a theoretical point of view it can be argued that in these cases, in contradistinction to those in which there is obvious evidence of inflammatory reaction in and about the affected segment of vein, there is every reason to believe that the thrombus is relatively poorly fixed to the vein wall and that, as a consequence, proximal vein ligation and division should offer greater protection against embolism than anticoagulant therapy. It is a fact, however, that the use of intensive anticoagulant therapy, rest and elevation of the affected limb has been followed by extraordinarily good results in cases of quiet, bland thrombosis. I have not seen embolism occur during the course of such treatment, though failures have been recorded. Vein ligation has perhaps the additional advantage that it continues to afford protection after the patient has recovered from his acute episode and has resumed normal activity. This is a consideration which cannot be lightly dismissed, for once in a while a patient will have a pulmonary embolism while leading a perfectly normal, active life after having recovered from phlebothrombosis treated by proper anticoagulant therapy. The occurrence of such disastrous accidents after recovery from the acute episode is so rare, however, as to make it questionable whether vein ligation should be practiced because of this consideration. Proximal vein ligation gives excellent results but it is not a fool-proof procedure. Rare as it is, embolism has been known to occur after bilateral superficial femoral vein division carried out for treatment of unilateral or bilateral phlebothrombosis of the calf veins.

It is hardly possible to arrive at a convincing answer to the question as to which method is superior from the most careful analysis of published data. In my hands both methods have given excellent results. In recent years it has been my policy to treat most cases of phlebothrombosis with rest, elevation, and anticoagulant therapy and to reserve vein ligation for special circumstances. If a patient with phlebothrombosis has had a pulmonary embolism while under anticoagulant therapy, he obviously ought to have proximal vein ligation in addition. I also feel that any patient should be treated by vein interruption if there are reasons to make one doubt that he will lead a normal, active ambulatory life once he has recovered from his acute difficulty. Chronic disability, or local difficulties such as ankylosis of joints may be factors involved in circumstances of this sort. In these exceptional cases I have practiced vein ligation and division and the concomitant utilization of anticoagulants. It is my feeling that one should use anticoagulant therapy whenever vein ligation is carried out in order to minimize the likelihood of spread of the thrombotic process in the distal venous tree and to afford additional protection in case unsuspected thrombosis is present in veins not draining into the ligated venous stem. In order to prevent thrombosis proximal to the point of ligation, it is important that the vein be divided in such a manner as to avoid leaving a stump with stagnant circulation. For example, when the superficial femoral vein is divided it should be interrupted just at the point where it joins with the profunda femoral to make the common femoral vein. The best sites for division of veins as far as collateral venous channels are concerned are the superficial femoral, the common iliac, and the distal portion of the inferior vena cava. With proper postoperative care and in the absence of very extensive venous thrombosis existent at the time of division, surgical interruption of veins is not folowed by noticeable sequelae. To be sure, if a vein is divided in the presence of massive thrombosis, the patient will have a tendency to postphlebitic edema but the same tendency to edema would occur in the absence of vein ligation.

I have presented briefly some of the basic considerations in the treatment of thrombophlebitis and phlebothrombosis. The importance of the early recognition of these disorders and their prompt and intensive treatment has been emphasized. It has been stressed that treatment does not end with subsidence of the acute episode but must be continued until full recovery has been achieved. I am convinced that such a program yields gratifying results not only in reducing the hazard of embolism but also in diminishing the likelihood of sequelae.

1040—1232 West Michigan

Every time you acquire a new interest—even more, a new accomplishment—you increase your power of life. No one who is deeply interested in a large variety of subjects can remain unhapy. The real pessimist is the person who has lost interest. . . . . . Phelps.

When you plant for a year, plant grass;
When you plant for ten years, plant trees;
When you plant for the centuries, plant men.
Chinese Proverb

Grass will wither, and trees will blow down. But nothing can blight the ideas, good will, and common hopes of men.

The Status of Antacid Ulcer Therapy*

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Gastric secretory control is an essential in peptic ulcer management. There is increasing tendency to conclude vagal stimulation by emotional factors etiologic. To combat this mechanism psychotherapy alone is not acceptable. Practical approaches include: mechanical in resection of acid-secreting area and blocking by vagal section; inhibitory by anticholinergics and local by modifications of the success-sustained Sippy regimen. The status of surgical procedures is constantly reviewed.[1] Anticholinergics are being evaluated.[2-6] Antacids tolerant of the dual challenge of time and aggressive "cures" are probably the most efficient aid in ulcer management A large number of alleged specifically efficient antacid combinations have replaced the "Sippy powders"; of these, calcium carbonate, aluminum hydroxide and magnesium trisilicate alone or in combination enjoy continued endorsement. Protein hydrolysates, resins and detergents as antacids and such claimed secretory inhibitors as antihistamines, enterogastrone, urogastrone and sex hormones lack substantiating evidence of efficieny.[8]

Kirsner[4] summarized the situation: "The rate of recurrence, in the final analysis, constitutes the most important measures of any therapeutic program in peptic ulcer." Accepting this estimate we broached a clinical evaluation in a small control study of duodenal ulcer patients in which a cholinergic blocking agent as a secretory inhibitor is compared with the acid-neutralizing combination of aluminum hydroxide and magnesium trisilicate. The anticholinergic employed was either banthine bromide or prantal, in a dose schedule of 100 mgm. every six hours. Tricreamalate, a composition of aluminum hydroxide 300 mgm. and magnesium trisilicate 600 mgm. to each teaspoonful was used as the antacid. Prolonged absorptive and neutralizing advantages accreditable to these two antacids are enhanced by claims of astringency, demulcency and mucosa adherence. In each series there was equivalent diet, sedation, and a degree of psychotherapy. In addition a control group was given banthine bromide placebos, equivalent sedation and diet but no antacids.

For interest we reviewed our modified Sippy group of an earlier publication.[7] In this study calcium carbonate had been the principal antacid. These patients had been initially hospitalized in contrast to the present study of ambulatory individuals. This study prognosticated a 75.5 per cent symptomatic control after twelve months but only 57 per cent asymptomatic for a 24-month follow-up. This compares favorably with other publications. The longer the follow-up the higher the recurrence incidence. However, for practical purposes a two-year study is adequate. Further, in this series the patients were kept on continuous therapy, were frequently reexamined and were all under the care of a single physician.

1. DIETARY

An early ulcer diet for the initial four weeks, a normal gastro-intestinal diet thereafter.

2. SEDATIVES

Phenobarbital grains ¼ to ½ grains three times daily.

3. ANTISPASMODICS

Atropine .0006 three times daily. (Omitted in patients on anticholinergics.)

4. (a) Banthine bromide or prantal: 100 mgm. every six hours orally.

(b) Placebo group: two every six hours orally.

(c) Antacid: tricreamalate one tablespoonful every two hours for the first four weeks and four times daily thereafter.

5. SUPPLEMENTS

Ascorbic acid 200 mgm. daily. Mineral oil when needed for constipation. One complete thirty-six hour period of semi-bed rest each week. Beyond this all patients were handled on an ambulatory basis. Psychotherapy: good medical attention by an internist, close follow-up, analysis of patient's difficulties, suggestion that a new method of management was being used.

[†] From the BROWNE-McHARDY CLINIC

Aided by a grant from the Department of Medical Research, Winthrop-Stearns, Incorporated and the Medical Research Fund

Banthine was generously supplied by Irwin C. Winter, M.D., Clinical Research Division, G. D. Searle and Company

Prantal was generously supplied by Norman L. Heminway, M.D., of the Division of Clinical Research, Schering Corporation

CHART 1

	BANTHINE PRANTAL GROUP		PLACEBO GROUP		CONVENTIONAL (TRICREAMALATE) ULCER REGIME	
Age in years	44		42		46	
Duration	8 Years		11 Years		9.5 YEARS	
Therapy	BEFORE	AFTER	BEFORE	AFTER	BEFORE	AFTER
PAIN MILD	10	4	12	7	11	4
" MODERATE	18	1	14	2	14	2
" SEVERE	2	1	4	3	5	2
" NOCTURNAL	22	4	19	4	26	3
VOMITING	9	3	11	3	13	2
HEMATEMESIS OR MELENA	0	4	0	2	0	1
PYROSIS	12	26	9	2	16	3
WEIGHT LOSS	21	2	16	3	18	0

Figure 1—Therapeutic Evaluation
90 Uncomplicated Duodenal Ulcer Male Patients
24 Month Follow-up. 30 Patients Each Group

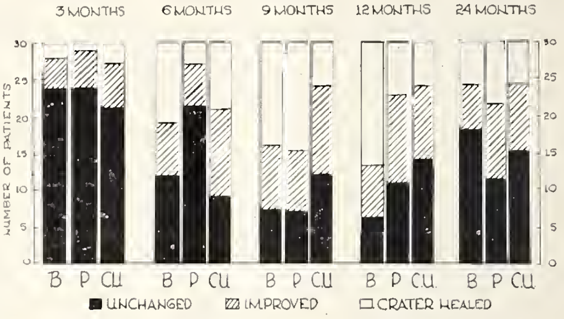
Therapeutic Evaluation

In this comparative evaluation from a symptomatic viewpoint alone it would appear that the use of the cholinergic-blocking agents had little if any advantage over the conventional modified Sippy regimen. Obviously the assumption that the ulcer management can be most casual and that most patients respond regardless of the therapy is not substantiated by our control placebo group. In further analysis distinct advantages for the anticholinergics were obvious in the rapidity of symptomatic response and curtailment of work absence; disadvantages were undesirable side effects previously emphasized,[2] the precipitation of pyrosis and a 66 per cent call for adjunctive antacids to control pyrosis and other minor dyspeptic complaints. In the patients on tricreamalate only 25 per cent required further medication, in the placebo group all patients required further assistance.

The frequency of symptom recurrence after initial subsidence was of significant interest. In the year prior to therapy the patients of the banthine-prantal series estimated their symptoms recurrence to average eleven episodes a year. In the first year of this study those having further difficulty averaged two bouts of illness and in the second year four relapses. The tricreamalate ulcer regimen group had a pre-treatment year averaging fourteen episodes; an incidence of four bouts characterized both the first and second years of treatment. The control group showed an insignificant alteration from pretreatment of nine incidents to post-treatment seven incidents the first year and eleven the second twelve months.

Radiologic follow-up possibly favors the anticholinergic group. The study is too small for a conclusive decision. It is our observation that radiologic interpretation of ulcer activity requires clinical confirmation. In a previous study we estimated ulcer recurrent in the same crater site in 86 per cent of cases leading us to hesitate in a belief that complete healing had probably never occurred.

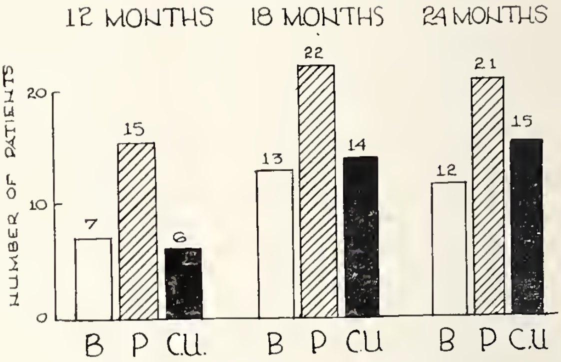
CHART 2



Radiologic Follow-up

Figure 2—Radiologic Follow-Up
(B) Banthine
(P) Placebo
(CU) Conventional Ulcer (Tricreamalate)

CHART 3



Incidence Clinical Recurrence in 24-Month Follow-up

Figure 3—Incidence Clinical Recurrence in 24 Month Follow-Up
(B) Banthine
(P) Placebo
(CU) Conventional Ulcer

DISCUSSION

Obviously the placebo group illustrates the inadequacy of a program not directed at either secretory or motor inhibition, and that a program with only a psychotherapeutic adjunct is inadequate. A conventional ulcer regimen is probably as therapeutically adequate as anticholinergic management but distinct advantages favor the incorporation of these drugs adjunctively. The promptness of pain relief is the greatest virtue of the anticholinergic. This promptness is such as to favor the concept that primarily this action must be by relief of spasm as indicated by Legerton and Ruffin.[9] It is our thought that in the same process of reasoning one must expect increased esophageal spasm when cholinergic blocking agents are used and that pyrosis is therefore anticipated. Presumably the newer cholinergic blocking agents may be more specific, less toxic and have minimal side effects.

CONCLUSIONS

1. This survey suggests ulcer recurrence rate to be appreciably the same whether an anticholinergic enhances an antacid or not.

2. From the viewpoint of symptomatic control either the modified Sippy regimen and that with combined aluminum hydroxide give an equivalent prognosis.

3. Anticholinergics brought about more prompt pain relief but did not deter recurrence rate nor prevent complications (perforation and hemorrhage).

4. Since side effects, secretory and motility influences in the gastro-intestinal tract beyond the stomach are anticipated with the cholinergic blocking agents, they should be reserved as adjunctive to an accepted ulcer regimen.

5. Ulcer therapy remains a composite one in which the patient should be visualized as a whole and all measures employed to bring about a response. Preventing recurrence is often not achievable with our present armamentarium. However, efficient antacids hold a persistently enviable therapeutic position in the symptomatic control of ulcer manifestations.

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Potatoes have calories that fatten, but not so many calories as bread.

You can diet and grow lean, or you can work and lose weight by physical labor.

Extra weight is not good for the person with heart disease.

Skipping meals does not necessarily reduce your weight. If you eat as much at one meal as you would at three or four you may expect to remain fat.

If your child has not been vaccinated get it done before it needs it; it's like buying insurance. You can not wait until you go to the hospital.

We understand that Prentiss County is about the best covered county in the state with sick insurance, the majority carrying Blue Cross.

LILLY ANNOUNCES A NEW ANTIHISTAMINIC

The Lilly Research Laboratories have prepared a new series of compounds possessing striking antihistaminic properties. The most effective of these is pyronil (pyrrobutamine, Lilly), which was shown by animal tests to have a longer duration of effect than that of any other known antihistaminic. During the 1951 hayfever season, research clinicians reported superior results in an impressive majority of cases. Side-effects on effective therapeutic doses were usually negligible.

The drug is slow in onset of action. This characteristic is overcome by the combination of 15 mg. of 'Pyronil' with fast-acting Thenylpyramine and Cyclopentamine. The resulting formula ('Co-Pyronil') thus gives prompt action followed by prolonged relief.

Current Drugs Used in the Treatment of Hypertension*

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THE METHOD OF TREATMENT and the use of various drugs in the management of essential hypertension and hypertensive states have been increased in number and effectiveness within the recent memory of all of us. As yet there is no single drug for the treatment of hypertensive states. Rather indeed in the absence of definite pathogenetic concepts of this multiphasic sydrome, the selection of treatment depends upon the condition of the individual patient and trial of the appropriate methods at hand which may range from those that are simple and easy to those that are complex and drastic. It is the purpose of this paper to review briefly this large group of drugs and discuss in some detail the use of hexamethonium, a vasoconstrictor blocking drug, in the management of hypertension.

Still the most commonly used and reliable drug in the hypertensive patient is phenobarbital alone or in combination with other hypotensive agents. Clinical experience has long proved that in all phases and especially in the early course of the essential hypertensive, the adoption of the "good quiet" life reinforced by a sedative is to be desired. Though time proved the bromide preparations are not to be used with impunity as a sedative over a long period of time, since chronic bromide intoxication is being unwaringly produced with attendant mental confusion, body rashes, and "nervous states." The bromides should probably be reserved for those few patients who tolerate barbiturates poorly and then periodic serum bromide concentrations should be made. Although sodium and potassium thiocyanate are two of the oldest drugs used, they still have a place particularly in the symptomatic treatment of the hypertensive patient with headache. To avoid toxic reactions thiocyanate therapy should never be used unless the patient can be re-evaluated frequently and serum thiocyanate determinations obtained. Recently purified and standardized preparations of veratrum viride have led to clinical usage in the treatment of hypertension. In general veratrum viride and its derivatives are more effective hypotensive agents than thiocyanate, but their general use is limited by the narrow margin between therapeutic and toxic dosages. Currently it is our belief that only a small percentage of patients can take veratrum viride or its derivatives in dosage adequate to obtain favorable hypotensive effects. Those who do show hypotensive effects seem to develop a tolerance for the drug and the dosage requirements vary considerably from patient to patient. Intravenous veriloid seems to have a place in the management of hypertensive crises with adequate facilities, but seems to be less desirable than hexamethonium bromide. Although effective vasodilator drugs, the nitrites find no great use in the long term management of hypertensive cases since they are of short term action. Certainly the nitrites are effective coronary dilators and are used in angina pectoris by all of us, but the administration of nitrites in cases of myocardial infarction is dangerous since the subsequent falling blood pressure will jeopardize the coronary circulation still further. The use of a salt-free diet is another means to obtain a hypotensive response in the management of essential hypertension. It is to be emphasized that this diet must be extremely strict and give the patient no more than two hundred to five hundred milligrams of sodium per day in contrast to the three to five grams of salt usually allowed in the low-salt diet of a cardiac patient in congestive heart failure.

During the past few years probably the most significant progress in the clinical use of hypotensive drugs has been the development of agents capable of producing a specific and effective blockade of impulses in the autonomic nervous system. Research on several series of blocking agents has progressed to the point where it is now possible to produce a clinically useful "chemical or medical sympathectomy." Such a chemical sympathectomy has obvious uses in the clinical evaluation and treatment of conditions in which a large component of sympathetically mediated smooth muscle spasm is present. Included in this group are tetraethylammonium, dibenamine, dihydroergotamine, hydrazinopthalazine, pentamethonium, and hexamethonium. Since we have had the opportunity recently for a clinical trial of oral and parenteral hexamethonium bromide, our remarks shall be restricted to this drug.

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* Delivered at the quarterly meeting of the Northeast Mississippi Medical Society, March 1952

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Hexamethonium or trimethylamonium is a potent ganglionic blocking agent which inhibits the transmission of nerve impulses through the sympathetic and parasympathetic ganglia of the autonomic nervous system. The block at the sympathetic ganglion interrupting the stream motor impulses causing vasoconstriction is productive of the desired vasodepressor effect. A secondary effect is blocking secretory impulses in the vagus with subsequent reduction in gastric secretion and motility.Originally Paton and Zamimis in 1948 drew the attention of the clinician to the hypotensive effects of the drug when they found it with more desirably slow and prolonged acting effects than tea. Subsequent investigators including Kay and Smith in 1950 verified their findings. Campbell and Robertson in 1950 found that the daily oral administration of hexamethonium to cases of severe hypertension for a period of one to five weeks brought the blood pressure down and that when the drug was discontinued the pressure remained normal for periods of several months. In the cases reported below hexamethonium bromide was given orally to patients after hospitalization and careful work-up including cardiac and renal function studies. The drug in crystalline form was administered in solution by dissolving in 20 cc. of water. On the first day of treatment 250 mgm. was given twice at twelve-hour intervals followed by 250 mgms. three times daily at eight-hour intervals for two days. Then 500 mgms. three times daily for two days, the dosage being progressively increased until by the tenth day the total daily dosage was two to three grams. It was found that the drug was more effective when given before meals.

Case. 1. J. Z. E., a male physician, age 39, first noted hypertension while overseas in the Army with blood pressure 190/110 which gradually increased over the following year to 225/125. In April 1945, sympathectomy was performed by Dr. Max Peete with excellent results for approximately five and one half years at the end of which time pressure became unstable again and returned to 190/110. In June 1951, hexamethonium initiated. On a dosage of 2.5 gm. daily at the end of two weeks orthostatic effects necessitated a decrease to 1.5 gm. daily with subsidence of symptoms. For four months the blood pressure varied from 150 to 138 systolic four hours after administration of the drug with the diastolic figure varying from 90 to 110. The upright standing pressures averaged 90/70. The drug was taken over a period of four months with a gradual rise to former levels although the patient remained asymptomatic. No side effects except postural hypotension.

Case 2. E. F. S., a forty-seven-year-old female with known hypertension five years and a history of cardiac decompensation for one year. Blood pressure ranged systolic 200 to 250. Orthopnea, pedal edema, nocturia. Treatment in past year with digitoxin, murcurial diuretics, and salt-free diet with temporary improvement. Examination revealed blood pressure 220/140 with classical congestive heart failure. Renal studies revealed marked impairment. Blood NPN 94 mgms. per cent. The clinical impression was chronic glomerulonephritis with cardiac decompensation. Hexamethonium therapy was initiated with a blood pressure of 220/140. On the second day of treatment average pressures were: 120/100. On the fourth day of therapy, the maximal blood pressure was 140/90 with a low of 115/80. Subsequently throughout the second through the fourth week the pressures ranged from 140/80 to 170/110 At the end of the sixth week the pressure had gradually increased to 230/110 and with continued therapy at the end of two months the pressure had returned to 260/130. At this time, the drug was stopped and the patient expired ten months later in clinical uremia.

Case 3. M. E. E., a forty-year-old male with hypertension detected two years prior with initial symptoms of headache and languor. Blood pressure 238 systolic then. Exertional angina and cerebral spasm in the past year. Previous treatment included veratrum viride. phenobarbital, digitoxin, and mercurial diuretics. Examination revealed blood pressure 260/140, fundi grade 4 with renal insufficiency mild congestive heart failure. Clinical impression was malignant hypertension with renal insufficiency. Hexamethonium therapy resulted in a drop of forty mm. in systolic and 40 mm. diastolic pressures in the first week. However, after this point no hypotensive effects were noted and therapy was discontinued. The patient expired in uremia two months later at home.

The above three cases were selected as subjects for this clinical trial because of the difference of the primary disease process and the extremely poor prognosis. The best results were obtained in Case 1 of essential hypertension following sympathectomy with Case 2 showing a less favorable hypotensive effect. Side effects encountered were minimal and consisted of epigastric burning, mild nausea, dry mouth, and postural hypotension. The latter was abated in Case 1 with slight reduction in total daily dosage. Although the bromide salt was given over several months' period, abnormal serum bromide levels did not occur. No electrocardiographic changes referrable to the drug therapy were noted. Although initial hypotensive effect and symptomatic improvement were gratifying, the patients seemed to develop a tolerance for the drug with gradual rise in the blood pressure after one to four months to former levels. Hexamethonium bromide is probably our most potent oral preparation useful in the management of severe hypertension. Although its place is not well defined as yet, it is our belief that this preparation should be commercially available for use in cases unresponsive to other measures, especially the hypertensive crises and malignant hypertension. Since our supply of the drug suitable for oral use was limited for experimental usage, our present studies have continued with parenteral administration.

At this time, there is a commercially available preparation of hexamethonium bromide, bistrium bromide, suitable for parenteral use in the concentration of 25 mgm. per cc. It has been found that following the intravenous administration of five to fifty milligrams of the drug, the cardiovascular effects appeared within two to three minutes and quickly reached a maximum within ten minutes. These effects consisted of a reduction of blood pressure and increase in heart rate as well as a consistent marked postural hypotension. The duration of action was five to ten hours. By the intramuscular and subcutaneous routes responses occurred at fifteen to thirty minutes following injection and persisted for a period similar to that after intravenous administration. In order to obviate the side reaction of sudden and profound reduction of blood pressure to collapse levels especially in debilitated and elderly patients, a means of parenteral dosage computation has been advised. While the blood pressure is being recorded once per minute in the opposite arm with the patient propped up slightly in bed, hexamethonium is injected at a rate of one milligram per minute until a total of ten milligrams has been administered. If there is no significant fall of blood pressure, the rate is increased to two milligrams per minute until an additional ten milligrams have been given and then at a rate of five.milligrams per minute to an overall total of fifty milligrams. As soon as a slight reduction of blood pressure occurs, the injection is temporarily stopped for two to three minutes in order to determine whether a further fall of blood pressure occurs. Should the blood pressure fall precipitously, the patient is placed in the head-down position and is given two to five milligrams of neosynephrine intravenously. This is usually sufficient to elevate and maintain the blood pressure. After the effective dose has been so determined, this amount (usually ten to seventy-five milligrams) is administered every eight to twelve hours by subcutaneous injection since shorter intervals seem impractical for the long-term treatment of hypertension. The initial dosage level is not effective beyond several days so that it is frequently necessary to increase each dose by the amount of five to fifteen milligrams. It is to be pointed out that a salt-poor diet giving 0.2 grams sodium enhances the action of the drug and full effects may be obtained from one-third dosage. With constant parenteral use of hexamethonium bromide, the side effects of postural hypotension, constipation, and blurring of vision are more common than with the oral form. These drawbacks are minor, however. Constipation can be abated by the use of urecholine five to ten milligrams twice daily under the tongue, and postural hypotension is usually not disabling. Recently, Freis and his group report a significant response in ten to fourteen cases of malignant hypertension using parenteral hexamethonium in combination with a low-sodium diet over a ten-months period. Smirk and Restal likewise report favorably on fifty-three hypertensive patients over a fourteen-months period. Smirk reports that eventually his patients inject themselves and that the control of dosage is comparable to insulin in the treatment of diabetes mellitus. These reports in combination with other investigators leave little doubt that this drug provides a method of reducing blood pressure in a large percentage of hypertensive patients and that this reduction is accompanied by relief of some of the signs and symptoms associated with the disease. Additional clinical experience, however, will be necessary to critically define hexamethonium's permanent place in the treatment of hypertension.

Personal worry is one of the principal causes of physical ailments which send people to hospitals. It is literally possible to worry yourself sick; in fact, the chances are better than that if you are ill, worry is causing the symptoms. Dr. G. Canby Robinson of Johns Hopkins Hospital, Baltimore, found out of 174 hospital patients 140 were worrying patients; 115 had worries directly related to their physical illness; in 97 worry was the cause of the symptoms; in 65 worry was the major precipitating cause of the illness.

"I have no time to worry," said the happy man. "In the daytime I'm too busy, and at night I'm too sleepy."

Self-Retaining Retractors for Scapula and Sacrospinal Muscle Bundles During Thoracoplasty

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Jackson, Miss.

SIMPLE, EFFECTIVE and inexpensive self-retaining retractor during thoracoplasty is presently needed although the idea is not new. In 1936 Bethune[1] described what was termed the "iron interne", and ingenious device and during the past twenty years various methods and instruments have been reported by Hall[2], Hudson[3], Mattison and Upshaw[4], Overholt[5], Klassen[6], Brantigan and Aycock[7],[8].

The retractor described by Overholt in 1940 is again being manufactured and approaches the ideal in all respects but that of the cost. This rather complicated rachet type of retractor is somewhat expensive. The interne, first-year resident, and nurse who furnish the manual labor of retraction during surgery usually have little voice in influencing the purchase of costly instruments and it is for them that I suggest an instrument that has proved satisfactory and costs very little.

Simplicity of operation, with power and rigidity are requisites for a self-retaining retractor. It must not interfere with the procedure either by obstructing the operator's view or by pressure on a rib with possible puncture of the pleura.

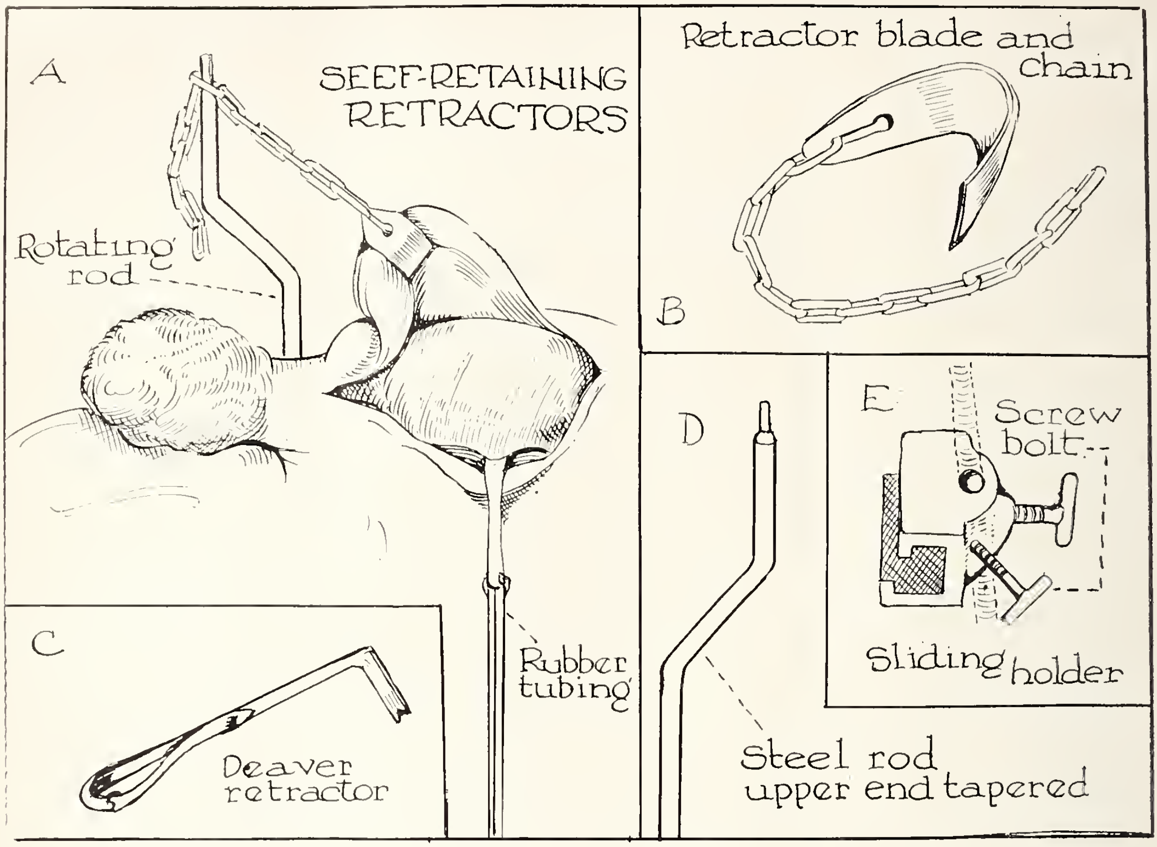
The instrument illustrated is based upon the fact that the effort expended in actually getting the scapula into position is minimal compared to the labor of holding it in position for several hours. The retractor is nothing more than the metal hobble found in hardware stores, usually costing $1.50 and designed to prevent a cow from kicking over the milk pail. The chain is already attached to the metal blade which may easily be shaped to fit under the scapula. The sliding holder that is furnished with operating tables is used to hold the steel rod. By drilling, tapping and fixing a screw bolt as illustrated one can secure the holder in the desired position on the rail of the table. An ample cross piece on the bolt provides the necessary leverage. The steel rod is tapered at the end (upper) so that the chain link easily fits over and rests on the flank of the rod.

The patient is in the lateral thoracoplasty position with the holder on the rail of the table as near the head as possible and on the side of the table faced by the patient. When the incision is completed the circulating nurse guides the lower end of the rod which has been sterilized and clamps it lightly. The surgeon places the sterile retractor blade in position and he and his assistant forces it into the desired degree of retraction. A proper link of the chain is dropped over the tapered end of the rod that is then rotated into a position to fix the scapula steady. Bolts that hold the rod in position and the holder to the table rail are then tightened and the operation proceeds without further attention to the scapula. At the close of the operation the chain is unhooked and the circulating nurse loosens the bolt holding the upright rod which is turned outwards and removed so as not to impede the closure of the wound. It is desirable to drape a towel over the portion of the apparatus that has been contaminated by the circulating nurse.

Many improvements suggest themselves such as an octagon steel bar rather than a round one, an adjustable holder for the upright bar and so on, but such refinements add to the cost and the instrument described has proved satisfactory and been used by the author for several years. It is desirable but not essential to have the retractor chrome plated. The slight changes to the parts described may be done in any hospital maintenance machine shop or the apparatus could be produced at a low price by a manufacturer of surgical equipment.

A Sacrospinal Muscle Retractor

During thoracoplasty the thick sacrospinal muscle bundle needs to be retracted from the posterior ends of the ribs and transverse processes of the spine. This retraction usually requires the full attention of one member of the surgical team. The presence of anyone between the operator and the head of the table results in crowding, inefficiency, and danger of contamination with an unsterile field. A number of years ago the late Dr. R. G. Urquhart of Uncas-on-Thames, Norwich, Conn., solved the problem by a simple effective method which has been used since that time by the


A
SELF-RETAINING RETRACTORS
Rotating rod
Rubber tubing
Retractor blade and chain
B
C
Deaver retractor
D
Steel rod upper end tapered
E
Screw bolt
Sliding holder

A. Retractors are in place: 1) for scapula, 2) for sacrospinal muscle bundles. (The size of retractor chain and rod are greatly exaggerated for the sake of illustration). B. Retractor of heavy metal with chain attached. C. V-notch in Deaver retractor to prevent slipping. D. Tapered end of bent steel rod which is easily rotated. E. Sliding holder with screw bolt to fix rod on rail of table. (Screw bolt is much larger and heavier than illustrated).

author. The retractor is a narrow Deaver with a guarded prong (Pilling 11954). The only change desirable is to grind a V-shaped notch at the end of the retractor blade to prevent slipping. A hemostat and a six-foot length of latex rubber tubing completes this device. After dissection of the muscle bundles, the sterile tubing is passed through the guarded prong of the retractor and both ends handed to the circulating nurse who holds two large Ochsner hemostats. The notched end of the retractor is held about four inches toward the floor from the position it will eventually occupy. The nurse fastens the distal end of the tubing to some portion of the under part of the table by doubling it over and clamping it with a hemostat. A sterile towel is draped around the tube from the retractor toward the floor to prevent any possible contamination should the tubing accidentally break. The retractor blade is placed in position and retracts the muscles by tension of the stretched tubing and may easily be shifted to any desired position.

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The Use and Misuse of Hormones in the Menopause*

Virginia Stacy, M. D.
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By definition, the term "climacteric" refers to the period of normal cessation of ovarian function, and "climacteric disturbances" are the general nervous and endocrine symptoms frequently occurring during that time. The term "menopause" is used to designate the cessation of menstruation which occurs as ovarian function decreases. By common usage, the term "menopause" conveys to both the lay public and the medical profession that period during which menstruation is decreasing or has ceased, and during which these general symptoms are noted. In this paper the term "menopause" is used to cover the whole period of the climacteric—the period of physicial and psychologic adjustment to the changes occurring during this time.

It is said that the menopause has been the topic of much conversation, consideration, and conjecture throughout the ages. Many volumes have been written on the subject and yet there still remains much confusion and uncertainty in the minds of both the medical profession and the laity. The changes occurring in the body at that time are not well understood, and most patients have no clear idea as to whether symptoms are menopausal in origin or due to organic disease. They attribute almost any symptom between the ages of 35 and 60 to the menopause, and physicians have often made things worse by accepting that explanation. We should all remember that none of these symptoms occur exclusively in the menopause, and the physician should rule out other disease before attributing them to the menopause.

The symptoms of the menopause fall in three large groups as follows:

1. The endocrinologic manifestations of the menopause are due to estrogen deficiency following the natural functional death of the ovary. These are present in varying degrees in all patients, but in only a very few women are they unduly troublesome. They occur in these ways.:

A. Menstrual changes with final amenorrhea. Usually there is a period of irregularity, of shorter and scantier periods. Often there is severe and prolonged bleeding, and then it is vital that carcinoma of the uterus be ruled out by adequate investigation. We have all seen patients with widespread carcinoma who have not come for treatment of their profuse bleeding or bloody leukorrhea because "they thought it was just the change working." Prolonged and irregular bleeding does represent a real problem to the patient because of the nuisance and discomfort, aside from the anxiety as to possible cancer, and it does deserve real consideration and adequate treatment.

B. Autonomic disturbances, of which the most characteristic is the hot flush. This consists of a sensation of warmth, usually starting on the trunk and spreading over the face causing visible redness and often profuse sweating. These flushes may be repeated many times a day in severe cases, and cause the patient great discomfort. In addition to flushes there may also be waves of coldness or generalized peculiar sensations or localized paresthesias. These autonomic disturbances can usually be controlled with small doses of stilbestrol.

C. Genital atrophy, which occurs gradually and is usually of no importance except for occasional complaints of pruritis vulvae.

II. The psychological manifestations are the most important symptoms of the menopause. A common complaint is loss of well-being, or of "nervous disturbances". There are frequently found feelings of inadequacy, anxiety states, or recurrent mild depressions. Richardson states that the women who have severe menopausal symptoms are for the most part those who have been maladjusted prior to the onset of the climacteric. Squires and Cannell say that the menopausal patient is more sensitive to psychologic trauma, and that tension and anxiety aggravate the autonomic instability of the menopause.

III. Physical changes that may occur at the menopause include osteoporosis, obesity, hypertension, and general endocrine disorders. These rarely cause the patient enough concern to present any unusual problems.

Of these symptoms, the hot flushes and nervous disturbances constitute possibly 95 per cent of the complaints presented to physicians. Novak states that "no one will dispute the efficacy of estrogen in the relief of vasomotor symptoms, but by the same token no one can dispute the fact that the frequently unnecessary and unwise employment of estrogen constitutes one of the most serious abuses of our profession. Every doctor will concede the entire normality of the menopause but in his practice he does not seem to appreciate that at this epoch the ovary dies a natural functional death and that the body soon adapts itself to getting along without any ovarian estrogen." He further states that the use of estrogen for long periods of time only defers the readjustment which the body must inevitably make. In 90 per cent of menopausal patients symptoms are moderate, and these patients should be allowed to get the inevitable readjustment over with as quickly as possible. In the small percentage of patients with severe vasomotor symptoms, they should be given relief with intermittent estrogen therapy, terminating treatment as quickly as possible. Most authorities recommend oral estrogen therapy as being just as effective, more convenient, and cheaper. However, "shot treatment" is still widely prevalent as is evidenced by the number of patients who come in requesting a shot of theelin.

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* Given at the fifty-seventh semi-annual meeting of the Delta Medical Society, Indianola, Miss., April 9, 1952.

The fact that estrogen therapy is often prolonged unnecessarily is illustrated by the case of a 45-year-old white female who underwent a total hysterectomy and bilateral oophorectomy in 1939. She has been given estrogens orally and by hypodermic almost continuously since that time. At present she is very worried about herself, and wonders why she hasn't been able to "get over the change." I fully agree that a 32-year-old woman in a surgical menopause should have the aid of estrogen therapy to smooth her adjustment patterns, but I question the wisdom of such therapy 13 years postoperatively.

Another case illustrative of the failure of "shots" completely to solve our problems was presented by a 33-year-old white female who underwent a total hysterectomy and bilateral oophorectomy in June, 1951. Since that time she has complained of headache, dizziness, and hot flushes. She was told to take a shot of theelin every month and that her symptoms would soon disappear. She states that she feels better for two or three days after taking theelin but that afterwards she feels worse than before. She believes the theelin has done her more harm than good.

Another indictment of prolonged estrogen therapy is the fact that uterine bleeding is often induced in women whose menses have previously ceased. In many cases this necessitates diagnostic curettage to rule out the presence of cancer. An example seen recently was the case of a 53-year-old white female, six years postmenopausal, who had been given premarin tablets without any supervision of dosage. She had been taking one or more tablets daily for extended intervals whenever she was nervous and upset. She experienced the sudden onset of profuse vaginal bleeding, causing her a great deal of concern. Her mother died two years previously of carcinoma of the uterus and this fact increased her apprehension. A diagnostic curettage confirmed the impression of withdrawal bleeding but the patient could have been spared much anxiety and expense by a simple explanation of the proper use of premarin.

Another possibility to be considered is the carcinogenic hazard of estrogenic therapy. Novak says estrogen administraion is probably a predisposing or inciting factor, and that no conscientous physician should be guilty of excessive and prolonged estrogen therapy. This is especially true for patients who because of heredity or the existence of a pre-cancerous lesion, may be suspected of cancer susceptibility.

Squires and Cannell state that for successful treatment of menopausal patients the doctor must listen to the patient's history sympathetically; he must examine her thoroughly and satisfy himself that there are no complicating conditions; he must explain the patient's condition to her own complete satisfaction and reassure her. They state that the administration of estrogens is usually a matter of minor importance, and is of value only for the control of the hot flushes, having little or no influence on the nervous manifestations. If used to the neglect of psychologic treatment, estrogens may make the patient worse through discouragement.

Novak states "it is obvious endocrines play only a small part in the management of the menopause, and the doctor who relies only on them is apt to be a pretty poor doctor. In addition such a physician can do the patient far more harm than good."

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President's Address*

James Grant Thompson, M. D.

Jackson, Miss.

It has been a distinct honor, a privilege and a pleasure to serve you as president for the past year. I have actually considered it a sacred trust. How well you have been served is a matter of personal opinion at the moment. My wishes are that what good, if any, has been done will not be interred with the bones of this administration, and that all evil, if any, be buried and left here.

In a year filled with visiting the component societies, in representing the State Medical Association at various functions, and in attending committee meetings, I have gained some impressions about medicine in Mississippi which I wish to convey to you. Some of these are personal impressions and some are actual facts, but in no way do they constitute an official report.

At the present time and for some time past, there has been much concern felt over the state regarding our increasing general population and our decreasing number of physicians, especially the number of country doctors. This has gone on in war and in peace. Many explanations have been offered; none of them seemed quite adequate in all respects.

My first impression is that as far as available medical service is concerned we stand in a position to give better service now and in the very near future than Mississippi has ever had before, despite the fact that we have only 1,429 physicians in the entire state. That number includes the public health service, staffs of all state-owned and operated institutions and federal hospitals. In 1886 we had 1,682 physicians. The number increased to 2,048 in 1916 and decreased from that point to 1,112 in 1945, at which time only 915 were in actual active practice. The nation had one physician to 711 people. Mississippi actually had one active physician to about 3,000 people, although the ratio given that year was one to 2,200.

In 1900 there were 1,500 physicians with a population of 1,551,270, a ratio of one to 1,034. In 1910 there were 2,054 physicians. The population was 1,786,773 and the ratio was one to 887. In 1920 there were 1,761 physicians with a population of 1,790,618, a ratio of one to 1,011. In 1950 there were 1,457 physicians with a population of 2,178,914, a ratio of one to 1,487.

We do not have an adequate number of physicians as yet, especially rural physicians, but even so it is very difficult to determine how many physicians we actually need. Surveys have been made, and various ratios have been given. One physician to one thousand population is offered as about right. That sounds good, but there are many factors that enter into this relationship, namely: 1) the economic level of the community to be served; 2) the accessibility, social assets and liabilities of the location; 3) the complex of professional institutions (hospitals, clinics, laboratories, specialties and consultation services) to be found in or near a given community; 4) the question of how "doctor minded" are the people; 5) what kind of roads they have; 6) the character of practice, whether limited to a small area, or scattered over a large area on small farms; and 7) the extent the people carry or are interested in hospital and medical insurance on a volunteer basis. The understatement of the season would be that it is a complex and confusing problem.

After serving on the Mississippi Medical Education Board for one year, I am thoroughly convinced that it is attempting to do as nearly as possible exactly what the legislature intended for it to do. It appears to me that this board at the present moment with the money allocated to it by the legislature is doing a good job in helping to supply medical service to rural areas.

In 1910, if my memory serves me correctly, we had a few cars and almost no roads, and a few more or less reliable telephones. If a doctor was needed, someone hitched up a buggy or saddled a mule and drove into town. We lived eight miles from the nearest physician. It took an hour to get to town without thumping the horse, even if the roads were dry, and likely as not the doctor in question was up on Cobb's Creek or across Tusclometer or at Hopoca, or somewhere else waiting for the stork to arrive with a little bundle from Heaven. So your ratio of one to 887 didn't mean much. And, too, if the patient happened to be one who was just middling, the doctor didn't get in any hurry about coming because he figured maybe she wasn't sick much anyhow. In this particular county, as I remember, there were three doctors who were graduates of good medical schools, who just practiced medicine in a sort of country squire manner, or not at all. At any rate, their practice was confined almost entirely to the village in which they lived. I feel certain this sort of medicine was practiced all over the state.

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*Delivered before the eighty-fourth annual session of the Mississippi State Association, May 13, 1952.

What happens in this same county now when a doctor is needed? The patient just picks up the phone and dials the physician's number. If he isn't available, another is dialed. People are no longer afraid to call another doctor if the first one is out, and in about 30 minutes the doctor arrives. And what does he bring with him? He comes in with almost everything that one could need, including access to a clinic or a hospital in 30 minutes to an hour, or even access to a larger hospital with all sorts of trained personnel. In this particular spot the patient can be in as good a hospital as there is in the state within two hours either by car or ambulance.

Now, maybe this isn't good enough and maybe this particular spot is an exception one way or another, but at any rate it completely upsets the ratio and as far as I can figure, there is no way to figure it accurately. The point is that service is available at that point. There are complaints, I am certain, and of course any service can be improved, but all in all our ratio of one to approximately 1,500 is not too bad at present, especially when one takes into consideration that our overall picture is a healthy, solid trend, both physically and psychologically toward better service to the public in every respect.

This standard is met despite the fact that a war is going on at present, and that the nation is attempting to ward off some sort of catastrophic calamity in the near future by developing an armed force second to none in effectiveness, if not in numbers. President Truman's instructions to the men who represent the states in their advisory boards went something like this: "I am concerned about the health and welfare of the nation. The fact that approximately one-third of all inductees were rejected in World War II because of physical or other defects disturbs me, and I intend to do something about it.

But at the same time law No. 779 was passed to enable the federal government to supply the medical manpower for an armed force such as this country has never seen in peacetime (?) before. It sort of reminds me of a baseball coach who tells his pitcher, "Now, whatever you do don't walk that man, but I don't want you to pitch a ______ thing he can hit!"

Another observation, and this to me concerns public relations, is that in some of the component societies, the physicians have a knack of calling in the community to help put on their local meetings. This little thing, although it may be a small matter, seems to me to bring about a better meeting. It sort of lends a "we" feeling to the whole occasion. Medicine as a profession, as far as I am concerned, stands shoulder to shoulder with the ministry, law, government and all of the things that make our world go, but if practiced without a sense of humor and a little spirit of camaraderie, it can be as dry and uninteresting as a couple of snakes trying to climb out of an ash barrel in August.

The medical part of the meeting can be as profound as you care to make it, but I do feel that there should be a little more of the community invited in to participate in the lighter moments of the meeting. Another point right in line with this is that the inviting of and visiting of members from other component societies would seem to me to be a very good thing. It sometimes helps to find out how the other fellow lives. The younger men of the society should be asked and encouraged to write good papers on subjects in which they are interested, but they should not be expected to shoulder the whole program. The older gentry should exercise themselves along this line, also.

Another observation, and this is my last one for the nonce, is that if things continue to change as rapidly in the next few years as they have in the past few, we are going to have some sort of controlled, or pseudo-controlled, economy some time in the not too distant future.

Just how this is going to affect the private practice of medicine, no one knows. Now, personally, I feel that as long as we continue to deliver service as we are doing and better, and as long as we do not get too self-important, and as long as we maintain a working front all the way from Shouto Cola Creek in Leake County to Knob Hill in San Francisco, we are going to be able to work at our chosen profession as free men, but—and there are a lot of buts in this—it seems to me that we are being infiltrated in a sense. Some parts of the federal government would like to take us over by almost any means, infiltration or otherwise. In addition to this, there are a number of lay organizations, and I know that there are some of you who would like to see some of these so-called lay organizations laid and left lying. But they are just like Banquo's ghost, they don't stay laid. They rise up again, and I understand that there are people who have money and who spend a great part of their time and money sponsoring lay organizations. The federal government sponsors, aids and abets organizations other than its own agencies in some instances. Most of these organizations have one thing in common, and that is that the physician is usually requested to give his services free. Now, it is certainly not for me to judge whether these organizations are good, or whether they are furthering our trend toward some form of controlled economy or even to some form of socialism, but I do think that if we as physicians are going to do the actual work, then we should see to it that we have a definite voice in the control of these organizations. I also feel that if this type of medicine is to be practiced, we should interest ourselves in how it is done and who does it.

At this particular point in this talk, I am going to do something about which I feel a great deal of emotion. The presidency of this organization is unique in many ways—it is the highest honor that can be bestowed on any one of its members, and it can be bestowed only once. Any attempt to glamorize, eulogize or in any other manner add to this honor would be entirely futile.

The men who have served in this capacity have served as their consciences dictated. They have done what they thought right for the Association, and none of them has used it in a manner to increase his own personal gain. In view of their service and the way in which they have served this Association, I feel that these men should be recognized not only by the spoken word, but by some material token as evidence of appreciation to them.

Doctor LeRoy Wilkins and his brother, Doctor W. T. Wilkins, felt so strongly about this presidency that they provided a diamond-studded pin to be worn by the incumbent and passed on from one president to another. Doctor John W. D. Dicks felt so strongly about the presidency that he had wood assembled from all the old mansions at Natchez which typify a splendor of a South that has gone with the wind, and had this wood bound in sterling silver. This gavel is now passed from administration to administration upon which each president's name is written on a silver band.

In addition to these noble efforts, I would like to give to the men who have preceded me to this office a past-president's pin with the year of each man's presidency inscribed in plain numbers upon it. I realize fully that some of these men abhor jewelry, and will not wear this pin. I also realize that some of them will wear it on some occasions, but whether they wear it or not, it will still stand as evidence of my respect and appreciation of them. (With the help of the secretary of the Association, the names of past presidents were called and each was presented a gold pin inscribed with the year he served as president of the Association.)

Yes, fat people do laugh, but not all of them have an even temper.

Bone marrow seems to be the very richest protein food, hence it is good for babies and growing children.

Distinguished Service Oration*

TRIBUTE TO DOCTOR WALLER SMITH LEATHERS

J. P. Wall, M. D.
Jackson, Miss.

ONE OF THE TRULY great women of the present generation in an address before the Congress said: "While we must not be visionary, we must have vision."

Friends, medicine is not visionary, not made of the flimsy stuff of dreams, not ephemeral, not Utopian; but rather is it a vision, real, tangible and practical.

Mists, vapors, hypotheses and systems *per se* do not interest the average man. Deeds done, facts accurately recorded and actions taken in accordance with known laws are the things characteristic of medicine and hold universal regard.

Ideals and principles are engendered by the inherent traits of the race. They flourish or fade as they are a direct expression of the predominant thought of that day but because of the mutations of time, the exigencies of circumstance, the multitudinous ramifications of the unpredictable and vicarious necessities of the inevitable, they must yield to new, and perhaps better, ways.

Today medicine faces an upheaval of gigantic proportions, the leveling of which demands constructive, intelligent and heroic action. The divergence of conflicting factors is so wide and the schism so violent, that socialization agencies, regardless of what guise they may assume, can never unite or calm them.

If medicine is to be worth its profession, then the abler, the finer and more successful the individual doctor, the abler, the finer and more successful will be the service rendered by medicine.

"Knowledge and Wisdom, far from being one,
Oft-times have no connection. Knowledge dwells
In heads replete with the thoughts of other men,
Wisdom, in minds attuned to their own.
Knowledge boasts that it has learned so much,
Wisdom is humble that it knows no more."
(Cowper)

Living, as we do, in the so-called "Atomic Age", there has come to us less hope than fear. This is a primitive fear of the unknown; a horror of forces men can not channel, can not comprehend. Notwithstanding this there do remain some things that the destructive power of brute force, in all its fury, can not destroy. Let it be remembered that the stars still twinkle; the sun keeps its appointed course; the mountains stand firm; the birds sing their lays to nature; little streams ripple merrily on their way; the rivers keep their ordained reversions to the seas; flowers bloom and perfume the air, and this old world continues its diurnal and annual revolutions with its recurring seasons. The human spirit is indestructable. It has survived wars and rumors of wars. Man is possessed of an indescribable something which refuses to cower to tyranny, yield to arrogance or submit to injustice however powerful these may be.

It is still fundamental: "Man is not the creature of circumstance, but circumstance is the creature of man".

In any government where there is a centralization of power farthest from the people, there is found a corresponding infiltration of foreign ideals. Many of the subtle and deceptive arguments by the supporters of such power is seen in its true light and when stripped of their hypocrisy they stand out bared of their sophistries and sinisterness. The adoption of the so-called welfare state's plan will bring about not only a change in our way of life, but will cause the destruction of life as all free men would have it. Such a state would crush incentive, strangle initiative and abase self-respect. The priceless heritage of freedom can be preserved only by the successful resistance to the baneful influence in the high places of our nation, a nation that once proudly did sing "the land of the free and the home of the brave". As a matter of fact, today it is neither the land of the free nor the home of the brave. Day by day there is with our sanction an onrushing tide of economic collapse, deficit spending, which is pyramiding to astronomical figures, while spiritual bankruptcy and delinquency of statesmanship are rife in high places. Remember that "water can rise no higher than its level".

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*Delivered before the Mississippi State Medical Association, Robert E. Lee Hotel Jackson, Mississippi, May 13, 1952.

*Prepared before the death of the author Feb. 25, 1952, and read before the Mississippi State Medical Association by Henry Boswell, M. D., Sanatorium, Miss.

Samuel Gompers, so long the chief of organized labor said: "What the government gives, the government can take away; and once it starts taking, it can take more than it gives."

"Ill fares the land to hastening ills a prey,
Where wealth accumulates and men decay;
Princes and lords may flourish or may fade,
A breath can make them as a breath hath made;
But a bold peasantry, their country's pride,
When once destroyed can never be supplied."
(Goldsmith)

The warrior wins a more or less fleeting fame through the "blood, toil, tears and sweat" of those who make his winning possible. The scientist lives in an impersonal world; the statesman's triumph is too often tarnished with the suspicion of personal aggrandisement; the man-of-God commands our respect; the author and philanthropist by pen and purse make for the betterment of all, but to the physician does the world accord its accolade of love.

"One ship drives east, another drives west,
With the self-same winds they blow.
"Tis the set of the sails,
And not the gales,
Which tell us the way they go.
Like the winds of the sea are the winds of fate,
As we voyage through life,
"Tis the set of the soul
That decides the goal,
And not the calm or the strife."

The cumulative experiences of countless personalities and the conscientious endeavors of unselfish workers have gone into the formation of the complex character of medical inheritance.

The greatest exponent of the healing art in the present century, Sir William Osler, cryptically said: "It is a sign of a dry age when great men of the past are held in light esteem."

On December 4, 1872, there was born, near Charlottesville, Virginia, a boy to whom was given the name of Waller Smith Leathers. Of English-Scott descent, reared in a home of elegance, where the traditions of gentility and Christian precepts were ever prominent, he grew into manhood with a full appreciation of the responsibilities such an inheritance entailed.

In 1892 he received his academic degree from the University of Virginia, where his scholarship was so outstanding that he wore the key of Phi Beta Kappa. Three years later he received his medical degree from the same institution. Like the great majority of alumni from this university, one of the triad of Thomas Jefferson's successes, his life was such as to make the world better because of the part he played. His was a charm, infectious, casual and compelling. Early in life he formed definite ideas and lived to see their fulfillment.

Following graduation in medicine he did special work at Johns Hopkins, University of Chicago, and Harvard University, perfecting himself for the distinguished career that was to be his in after years. In his life there was the unusual combination of the essential and desirable duality of clinical science and an abiding sense of the humanities, thus enabling him to become an eminent physician, convincing teacher and capable administrator.

From 1897 to 1899 he was professor of biology at the University of South Carolina; the following year he became professor of physiology and biology at the University of Mississippi. While in the latter position he organized the Medical Department of the University of Mississippi, becoming its dean in 1900 and occupying this chair until he left the state in 1924.

From 1910 to 1924 he was executive officer of the Mississippi State Board of Health. Truly may it be said of him as Mr. Emerson has expressed it, "Every great work is the prolonged shadow of one man."

It was through the thought and labor of this man that this agency has grown and meant as much to the people of Mississippi.

When Doctor Leathers assumed the duties of this office the personnel was riddled with petty politics, frequently retarding and often disrupting the efficiency of the board. At that time the governor of the state named eight of the members of this body and the medical association named five.

He succeeded in having the state legislature enact a statute that placed the naming of the membership of the Mississippi State Board of Health at the disposal of the Mississippi State Medical Association, thus removing it from the machinations and selfishness of political opportunists.

Under a grant from the Rockefeller Foundation he directed a survey to determine the prevalence of hookworm in this state. It was found that the southeast quarter of the state had a 90 per cent infestation with this parasite. Because of the treatments instituted and disseminating information as to its causative factor, it is now a rare disease among our people.

It is due to his urgency that instillation of silver nitrate solution into the eyes of the newborn babies that congenital blindness is practically unknown in Mississippi.

In 1916 he established the Bureau of Vital Statistics, so it is easy to establish one's parentage and date of birth, if born in Mississippi.

One of the great achievements of his administration was the establishing of the Mississippi State Tuberculosis Sanatorium. This has grown, under the able direction of its able first and only superintendent, Dr. Henry Boswell, until today it is regarded as the best of its kind in this nation.

In 1916, with the assistance of Dr. C. C. Bass of the Medical Department of Tulane University, he conducted a survey in Bolivar County and among 1,000 convicts at the state prison at Parchman, to determine the prevalence of malarial fever among them. The observation and treatment was carried out over a period of two years. So successful was this work and the educational propaganda, this scourge is seldom found in Mississippi. The Mississippi State Hygienic Laboratory today has a standing award to any doctor to the amount of five dollars if he can produce a positive malarial slide from a Mississippi patient.

It was Doctor Leathers who began the organization of full-time county health units, and today there are only two counties out of the 82 in the state that do not have such officers.

The year 1923 was spent in Europe studying health problems, this being under the auspices of the International Health Division of the Rockefeller Foundation. On his return from Europe he resigned from the Mississippi State Board of Health and began his duties at Vanderbilt University's Medical School as professor of preventive medicine and public health, three years later becoming dean, in which chair he served until his death. It is largely due to his academic, clinical, and executive training that this school has such a high rating.

Doctor Leathers was never a "climber". Far from seeking honors, they did come to him, rapidly and deservedly:

To Doctor Leathers medicine was a sacred duty, conceived in sympathy, born of necessity and nurtured by unselfish service.

Doctor Leathers was of medium height, rather heavily set; clear eyes, expressive of his earnestness. With a keen appreciation of the weightier matters of life, ability to get things done, possessed with scholarship and blessed with a gracious personality, he did endear himself to all. Utterly devoid of jealousy, bickering and hate, he could and did rejoice in the success of others.

Practicing fidelity to the code of medical ethics and loyalty to its teachings, he did exemplify an uncompromising stability to the profession he so well adorned.

Doctor Leathers was indeed a gentleman, with all that the term connotes. Gentle without fear, modest without prudery, meek without complacency, considerate without fawning, scholarly without pedantry, friendly, without effusion, radiating happiness, without flattery, instilling hope without frustration and bringing counsel without intrusion. Never pretending to lead, his was the thought that prevailed in medical circles.

His home life was ideal. He was faithful and loving to the companion of forty years; provident and solicitous to the daughter, who blessed this union and bears with pride and honor the tutelage of her father and mother.

No one ever had the temerity to question his motives, impugn his character, doubt his sincerity or underrate his willingness to give and be given in the cause he deemed to be right.

His court of arms bore the admonition that governed his life, namely "Nil nisi quod honestum", which being freely translated means "To do nothing except that which is honest".

Death, as it must come to all, came to this lovable and capable man on January 26, 1946, following a cerebral hemorrhage, after he had passed well beyond the allocated Biblical three-score and ten years.

"Can storied urn or animated bust,
Back to its mansions call the fleeting
  breath?
Can honor's voice provoke the silent dust,
Or flattery soothe the cold ear of death?"
(Gray)

The tenure of life is commensurate not with days spent, but in deeds wrought. In the crypt of St. Paul's Cathederal in London there is the tomb of its architect, Sir Christopher Wren. Burial in this shrine of Britain's great is second only to the honor of interment in Westminster Abbey. Sir Christopher Wren was a builder of churches, there being 154 accredited to him. He also designed the buildings of colonial Williamsburg, Virginia. His masterpiece is the cathedral in which he found his last resting place. Over his tomb there is no name, no date of birth or death, no fulsome eulogy, no expansive cataloging of his achievements, no enumeration of his virtues, but in simple Latin there is inscribed: "Stranger, if you would read my epitaph look around."

Yes, my friends, Doctor Leathers' epitaph is his life work in preventive medicine.

As instructor and executive, instilling in young and old alike, a sense of personal responsiblility; practicing the principles of upright citizenship and living a life of a Christian, he could, and did meet the inevitable end, untrammelled by regrets and unfettered by fears, but sustained by the blessed promises made a part of his life.

"Long, long be the heart with such memories filled,

Like the vase, in which roses have once been distilled,

You may break, you may shatter, if you will,

But the scent of the roses will hang on still."

Case Report of a Patient Walking around with an Unsually High Blood Sugar*

Maxwell D. Berman, M. D.
Jackson, Miss.

This case is presented because it demonstrates two interesting points:

1. the value of doing a routine urinalysis on new patients.
2. the fact that we can have patients with high blood sugars without symptoms of diabetes.

This patient was a white female, sixty-two years of age, height five feet seven inches and weighing one hundred sixty-two pounds, whom I saw as a transient patient at a local hotel on February 21, 1952. She complained of dizziness and nausea that followed a long automobile trip the day before. She was talking rationally and feeling good except for vertigo. She had no fever, chest was clear and blood pressure was 140/90. She felt that bifocal glasses and chronic sinusitis caused her dizziness. Her last visit to a doctor had been four years ago when she was found to have a cataract in the right eye and was referred to an internist to check her for diabetes. He found her in good health then with no evidence of diabetes.

Because of her age and as an added precaution a urinalysis was made and showed a four-plus sugar, one-plus acetone, and trace of albumin. Microscopic showed 1—3 white blood cells and occasional granular and hyaline casts.

Fasting blood was then taken for blood sugar and showed 848 mgms. per 100 cc. After not being able to get a room at the hospital I treated her at the hotel. I gave her 160 units of plain insulin that day in divided doses and the next day the urine was three-plus sugar, no acetone. Fasting blood sugar the next day was 716, NPN 64 and creatinine 3.2. Routine agglutination tests were negative and blood mazzini negative. She was placed on a diet of 1545 calories and given 110 units of plain insulin that day in divided doses.

On February 25 she began to run a little fever, temperature being 99.5 and she was thought to have a mild virus infection involving the sinuses and was placed on neosenephrin nose drops and aureomycin. Her urine showed one plus sugar, no acetone. Blood sugar was 288, NPN 35, creatinine 0.75. She was then maintained on 80 units of NPH insulin each morning and 10 units of plain insulin at any time her urine showed three-plus sugar.

On February 28th her fasting blood sugar was 224. Urine was one-plus sugar with no acetone.

On February 29, one week after her first visit, she felt well, had no fever and urine was one-plus sugar. She was then told that it was safe to go home and to be under the care of

(continued on page 33)

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*Presented before the Central Medical Society, March 4, 1952.

The Mississippi Doctor

The journal with a vision which encourages a plan of delivering modern medicine to the masses at less cost to the individual and more profit to the practitioner. It champions the community hospital, the hub around which this service must be built.

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STATE MEETING

The Mississippi State Medical Association held its eighty-fourth annual session in Jackson May 13, 14, 15. Four hundred and thirty-six doctors registered, which is probably a record breaker, anyway a fine attendance.

Dr. James Grant Thompson, active in medical problems throughout his tenure of office as president, presented some original thinking in his address.On President's Night he also presented each of the past-presidents with a past-president's pin which was deeply appreciated by every one of this fine group.

Dr. Lamar Arrington was installed as the new president. He will serve well. Councilor from Mississippi for the Southern Medical Association, he is widely recognized as a leader in organized medicine.

The distinguished service oration, read by Dr. Henry Boswell for the late and beloved Dr. Percy Wall of Jackson, was on the late Dr. W. S. Leathers who was dean of our two-year medical school and a leader in public health for many years.

Dr. John W. Cline, San Francisco, president of the American Medical Association, delivered a masterful address on the progress and the problems of medicine. We hope to have this address for publication during the summer.

An outstanding highlight of the convention was the Doctor's Day luncheon at the Heidelberg Hotel under the direction of Mrs. George Owen, the Auxiliary president. She had as guest speaker Dr. Joseph S. Stewart of Miami, Fla., whose oratory sounded the call to duty to both doctors and citizens.

The scientific sections were good and well attended. The chairmen were as follows: **Medicine,** Dr. William K. Purks, Vicksburg; **Pediatrics,** Dr. Harvey Garrison Jr., Jackson, **Hygiene and Public Health,** R. L. Wyatt, Holly Springs; **Surgery,** Dr. R. E. Shands, New Albany, he not being present Dr. J. T. Davis of Corinth presided; **Eye, Ear, Nose and Throat,** Dr. Donald S. Hall, Vicksburg; **Obstetrics and Gynecology,** Dr. I. J. Newton, Greenville.

Technical exhibitors made a splendid contribution to the meeting and the scientific exhibits were strong evidence of the onward march of medicine in Mississippi.

Among prominent visitors were Drs. Seale Harris of Birmingham, Ala., and H. T. Smith of McGehee, Ark., president of the Mid-South Postgraduate Medical Assembly, and Mr. C. P. Loranz, executive secretary of the Southern Medical Association.

The revision and rewriting of the bylaws and constitution for the association brought out warm discussions. These were adopted with the understanding that each doctor in the house shall have a copy for study for one month and then write to the secretary of the council, Dr. H. C. Ricks, Jackson, Miss., of any changes that he wishes to be made. Every member should respond to this request.

Dr. James Thompson, after presenting past-presidents pins, was in turn presented one at the close of the meeting by Dr. E. C. Parker, Gulfport, from the council.

Dr. M. Q. Ewing of Amory was chosen as president-elect. Dr. George Twente was elected secretary. Mr. Rowland Kennedy, executive secretary of the Association, received unanimous approval for his fine work.

The 1953 meeting will be held on the Gulf Coast, at the Buena Vista Hotel.

THE BETTER INVESTMENT

The matter of state medicine is not yet settled in this country. Largely through the efforts of the American Medical association the general public is much better informed as to what it is and what may be expected if it comes. Much money has been spent to inform the public, which is no doubt a good investment, but money and lobbying will not prevent regimentation in medicine. Dr. John W. Cline of San Francisco, president of the American Medical Association, is preaching a sound doctrine for American medicine. He does not believe a lobby fund will solve our medical problems. Instead, the doctor must take most of his public relations stock in citizenship. Formerly, his interpretation of ethics might have discouraged this position, but now when American liberty is hanging in the balance it behooves every doctor to do his part as a citizen.

The challenge to the medical profession is to take the lead in building a citizenship adequate to meet any emergency that may arise in our country. To do this mental, physical, and spiritual assets must be fully considered. The Golden Rule control must be placed on human relationships. Selfishness and the dollar mark must not forever take the first place. This applies to one and all in every walk of life. A kindly interest and a sincere sympathy often do more than medicine for the sick patient. Furthermore, overcharging and the lack of sympathy on the part of one doctor may undo what 99 who make service their watchword can do. "The gift without the giver is bare".

Medical progress and service we believe is on its way to every one who needs it, but doctors must have a genuine desire to understand and help the sick patient, even if he must give a chronic the benefit of the doubt. The public on the other hand, needs to have gratitude and understanding of the doctor who in addition to applying the best known in medicine, takes time to be a good citizen, to participate in human affairs. Liberty is at stake for all of us.

News and Comment

Governor Hugh White points out interesting features of the Baptist Memorial Hospital of the future to Frank S. Groner (center), administrator, and Dr. Jennings B. George, director of Goodwyn Institute in Memphis, as he scans an architect's drawing of the proposed new building on a recent visit to the hospital. Baptist Memorial Hospital was founded in 1912 and will celebrate its Fortieth Anniversary in July with a public open house and other events. Immediately below the picture to which Governor White is pointing are photographs of the hospital as it appeared in 1912 and as other additions were made during its forty-year history.

ANNOUNCEMENT

John B. Nuckolls, M. D., announces the association of Oliver H. Graves, M. D., and the organization of The Urology Clinic, 607 Highland Avenue, Jackson, Tennessee.

LILLY REDUCES PENICILLIN PRICES

Eli Lilly and Company of Indianapolis announced a substantial reduction in the price of penicillin on March 26, 1952. The reductions ranged from ten to thirty-eight percent on various forms of the drug, with the average a healthy twenty-five percent.

This is the second time in the last three months that Lilly's has lowered the price of penicillin. The public, which last year spent an estimated $300,000,000 on penicillin and streptomycin alone, stands to have its medicine bill reduced considerably in 1952. One out of three Americans received an injection of penicillin during 1951.

Deaths

DR. W. L. ERWIN

The visitor Dr. W. L. Ervin, the country doctor of Sunflower County, had been expecting, called on him at his modest home April 16.

The visitor was Death.

Dr. Ervin had been waiting for the unwelcome visitor since February when he diagnosed his illness as cancer of the liver. His diagnosis had been confirmed by his surgeons when they operated on him in March. He was 75.

On that day there had been a "No Visitors" sign on his door at Baptist Hospital in Memphis. It was taken down because he knew before long there would be no time left for visiting.

On March 9 he returned to his home and many folks, rich and poor, high and low, came to visit him. Many of those whom he treated could not come, but they wrote him letters. Stories of his condition and his cheerfulness were carried in newspapers and magazines that covered the nation.

Letters came from every state in the Union and some of the letters contained checks from persons whom he had treated and who owed him money. Dr. Ervin didn't know they owed him—because he never sent out bills or kept records.

There were all kinds of letters—letters that told funny stories—letters of encouragement during his last days.

There was one from an "old Negro woman" from Louisville, Ky., who sent a widow's mite of $2.

Another contained a check for $100 from a couple. Their child had been treated by Dr. Ervin when they did not have any money. They had waited 25 years, but the check was welcome.

When Dr. Ervin was admitted to the hospital in February, his friends knew he had only a little money. The word was passed along and some $2000 was presented him as a gift from his friends in Sunflower County where he had practiced for 33 years.

Dr. Ervin was born Feb. 15 near Columbus, Miss. He followed in the footsteps of his father, who was a country doctor. When he was 2 he was stricken with polio, which left him lame in one leg. He received his early education in a one-room school and later attended Franklin Academy at Columbus.

He was graduated from the Memphis Hospital Medical College in Memphis in 1903. He began his practice of medicine in Sumpter and Pickens counties in Alabama. In 1907 he moved to Lowndes County and practiced in the McGowan Prairie community. In that year he was married to Miss Mary Augusta Prowell.

In 1917 he joined the Army and served for 11 months in France and Germany. When he was discharged in 1919, he came to Sunflower County to begin his practice at Inverness.

Dr. Ervin was a member of the Methodist church. He was a Rotarian and had a perfect attendance record for 33 years. He was a member of the Board of supervisors of Sunflower County.

He leaves his wife, a son, W. L. Erwin of Inverness and daughter, Mrs. Mary Emma Minnis of South Pittsburg, Tenn.

DR. J. L. NICHOLS

Services were conducted from the Alligator Methodist Church April 28 for Dr. J. L. Nichols, prominent physician of Alligator, who died Monday at the Kennedy General Hospital in Memphis following an illness of several weeks. He was 66.

The Rev. W. O. Hunt officiated with burial following in Oakridge cemetery at Clarksdale.

A native of near Rosedale, Dr. Nichols was reared at Eudora and Hernando and was graduated from the University of Mississippi in 1908 and his M. D. degree at Vanderbilt two years later.

He interned at the Vicksburg Charity Hospital and first practiced at Hillhouse in Coahoma County. During World War I he served as a medical officer in France. After the war he began his practice at Alligator.

Dr. Nichols was a member of the Methodist board of stewards for 30 years at Alligator. He was a Mason, Legionnaire, former chef de gare of the 40 et 8, twice president of the Clarksdale and Six Counties Medical Societies, a member of the Mississippi Medical Association and Southern Medical Association.

DR. J. W. MOODY

Dr. J. W. Moody, prominent south Mississippi physician, died May 2 in the Methodist Hospital at Hattiesburg after being seriously ill for more than a year. He was 77.

Dr. Moody was at one time physician for the State Penitentiary at Parchman and was later in charge of the state-owned Home for Feeble Minded at Ellisville. Dr. Moody also has operated hospitals at Charleston, Lumberton and Poplarville.

Dr. Moody leaves his wife, Mrs. J. W. Moody of Poplarville and three sisters, Mrs. J. M. Bilbo, Tylertown; Mrs. Will Askew, Columbia, and Mrs. Louisa Smith, Mobile.

DR. C. F. MACKENZIE

Dr. Charles Fisk MacKenzie died at his home in Jackson, May 3, following a long illness. He was born at St. John, New Brunswick, Canada, on October 10, 1867, received his early education in the schools of Massachusetts; and entered Brown University at Providence, R. I. graduating "cum laude" in 1890.

In 1901 he entered Vanderbilt Medical School and graduated in 1904.

In 1906 he, with his wife, went to China as a medical missionary under the American Baptist Foreign Missionary Society. He helped build two large hospitals, several churches, and residences. During the sixteen years in China he won the respect and love of the Chinese people. He returned to the United States in 1923 and established a medical practice in Jackson. In 1929 he became Medical director for the Standard Life Insurance company in Jackson, serving in that capacity until 1947 when he retired from the company and active practice.

Dr. MacKenzie was a deacon of the Calvary Baptist Church. For many years he took an active part and interest in all activities of the Jackson Exchange Club.

He was a member of the Central Medical Society and formerly a member of the Mississippi Baptist Hospital staff and at one time taught classes to the nurses.

He is survived by one son, Kenneth MacKenzie, Knoxville, Tenn., two daughters, Miss Edith MacKenzie and Mrs. Lake Colson, both of Jackson; one step-son, Col. Walter Lyman Meddling, Tokyo, Japan; two sisters, Mrs. Raymond Wilder, Jackson, and Mrs. William E. Clark, Sharon, Mass.

DR. H. P. HOPPER

Dr. Henry P. Hopper, 78, pioneer Saucier physician, died April 3, at the Biloxi VA Center. Funeral services were held from Riemann's Chapel, Gulfport.

Dr. Hopper was county physician at Saucier about 45 years. He is survived by his widow, Mrs. Maggie Walker Hopper; a daughter, Mrs. Homer Leidigh, a brother, H. L. Hopper; and a sister, Miss Annie P. Hopper, both of Lucedale; several nephews and nieces.

He had been in ill health since December, prior to which he was physician at the county farm and maintained his private practice. He held membership in the Saucier Methodist Church and taught the young people's class there.

Dr. Hopper was born in Waynesboro November 21, 1873.

DR. J. S. SANDERS

Dr. J. S. Sanders, 79, prominent Delta physician and civic leader, died at his home in Leland, April 9 after a brief illness.

A native of Carrollton, Miss., Dr. Sanders received his medical degree from the old Memphis School of Medicine, now the University of Tennessee School of Medicine, in 1900.

He came to Leland in 1920 from Coffeeville, Miss., where he practiced medicine and served as part time health officer.

He served as vice president of the Tri-State Medical Association and was a member of the Delta Medical Society.

DR. C. L. SIMMONS

Dr. C. L. Simmons, prominent Copiah County physician for many years, died at Hazlehurst April 19. He had practiced medicine for over 50 years in Copiah and Jefferson Counties

He was a member of the First Baptist Church at Hazlehurst from where final rites were held.

Immediate survivors are his wife and two sons, Delmer L. and A. C. Simmons, both of Jackson.

Dr. Simmons was a graduate of Memphis Hospital Medical College, Memphis, Tenn., class of 1900. His practice was spent in Mississippi except for a period of ten years which he spent in Texas.

DR. P. W. LUTTERLOH

Dr. P. W. Lutterloh, prominent physician, died of a heart attack at his home in Jonesboro, Ark., May 15. He was 68.

He had suffered from a heart ailment for several years.

Born at Chataban, N. M., he moved to Jonesboro in 1903. He attended Hendrix College at Conway and later was graduated from Washington University School of Medicine in St. Louis. He began his practice in Jonesboro in 1910.

Dr. Lutterloh was past president of the Arkansas Medical Society, past president of the Jonesboro Rotary Club, the Craighead Poinsett Medical Society, The Mid-South Postgraduate Medical Assembly and the Frisco Surgeons Society.

He was a member of the First Methodist Church, the Rotary club, the American Medical Association, the American College of Surgeons and the Jonesboro Country Club.

He married the former Miss Grace Cole, member of a prominent Jonesboro family in 1914.

He leaves in addition to his wife, a son, Paul Lutterloh of Jonesboro; a daughter, Mrs. Frank Shellgrove of Jonesboro; two brothers, Charles H. Lutterloh of Pittsboro, N. C. and William Lutterloh of Sneed Ferry, N. C., and three sisters, Mrs. Frank Smith of Wake Forest, N. C., Mrs. George Maynard of Chapel Hill, N. C., and Mrs. Hershey Marshall of Pittsboro, N C.

Woman's Auxiliary

Physician's Wife Has Duty to Community the Auxiliary Is Told by National Officer

Service to community as the wives of physicians in maintaining high standards of public health and good public relations was advocated as the primary functions of a medical auxiliary by Mrs. George Turner, of El Paso, Texas, treasurer of the Woman's Auxiliary to the American Medical Association, in a talk to the Woman's Auxiliary to the Mississippi State Medical Association at their annual meeting May 13—15.

Mrs. Turner's talk, the principal event of the program at the luncheon meeting on Tuesday, May 13, was entitled, "These Things We Can Do" and pointed out specific ways in which auxiliary members might render community service and service to American medicine. Among the specific functions she suggested was support of the National Fund for Medical Education which was established in 1950 by the American Medical Association for aiding in the maintaining and expansion of our medical schools. Other projects mentioned were Civil Defense, Nurse Recruitment, disseminating information of the Voluntary Health Insurance Plans, School Health Programs, Health Day and Health Councils.

Two new projects for service were advanced; namely, the commission on Chronic Illnesses and the new American Medical Association Committee on Mental Health.

Mrs. Turner particularly urged that auxiliary members participate in all voluntary health organizations of the community whose special emphasis is on research, prevention, care, and re-habilitation. She stated that the Auxiliary is unique in that it married the medical profession and became so completely surrounded with matters of health and its related problems that its members are better equipped to be health leaders than most women.

DOCTOR'S DAY LUNCHEON CONVENTION HIGHLIGHT

The famous address made by Dr. Joseph Stewart of Miami, Fla., "Of Thee We Sing", at the annual Doctor's Day Luncheon on the Heidelberg Hotel Roof climaxed one of the finest meetings in the history of the state Auxiliary. Mrs. George W. Owen of Jackson, president, presided with inimitable poise and grace. She not only presented Dr. Stewart (whose address will appear in the July issue of the MISSISSIPPI DOCTOR), but she also presented Mrs. Leonard Posey whose work in the Essay Contest won for Mississippi first place in the nation. The winner, Bill Carr of Gulfport, was given the $1,000 prize, and honorable mention went to a New Albany school girl as sixth place winner.

Mrs. George Turner of El Paso, Texas, treasurer of the Auxiliary to the American Medical Association, and Mrs. Eugene V. Holcombe, president of the Auxiliary to the Southern Medical Association, were guests of honor. Both brought greetings and messages on Tuesday, the first day of the meeting, and remained through both convention days.

Following the Doctors' Day Luncheon Mrs. Turner presided at the installation of the new officers, Mrs. Richard H. Clark of Hattiesburg, taking the gravel from Mrs. Owen, retiring president. (We refer to the below masthead for the complete new roster of officers, committee chairmen, and councilors.) Their concentration of talent and ability presage a wonderful year of achievement!

NEW PRESIDENT

Mrs. Richard H. Clark

The new president of the Auxiliary to the Mississippi State Medical Association brings to the office capability, verve, and charm. An enthusiastic member of her local and state organizations for twenty years, she has evinced peculiar qualities of leadership, understanding, and a rapport with other groups which equip her splendidly for the tasks of the year ahead. Family, education, and experience fill her goblet with a precious libation, which she lifts with holy care. She brings to the presidency all the attributes for wise guidance in brilliant proportions.

Having served as president of her South Mississippi Auxiliary and as president of the Southern Association, her knowledge of organizational policy and effort is wide and trustworthy.

MRS. BAILEY CHOSEN PRESIDENT-ELECT

The new president-elect of the state organization is Mrs. S. Lamar Bailey of Kosciusko. Her spectacular success in her own Auxiliary to the North Central Society points to extraordinary vision and ability. She led Mississippi in placing tenth in the national subscription contest for "Today's Health", of which she was state chairman the past year. The Auxiliary looks forward with confidence to progress under her leadership.

OFFICERS

President	Mrs. Richard Clark	Hattiesburg
President-Elect	Mrs. S. L. Bailey	Kosciusko
First Vice-President	Mrs. George W. Owen	Jackson
Second Vice-President	Mrs. Leonard Posey	Jackson
Third Vice-President	Mrs. John Howell, Jr.	Canton
Fourth Vice-President	Mrs. John W. Williams	Greenville
Recording Secretary	Mrs. C. C. Hightower, Jr.	Hattiesburg
Treasurer	Mrs. J. D. Simmons	Cleveland
Historian	Mrs. Harvey F. Garrison, Sr.	Jackson
Parliamentarian	Mrs. R. H. Fenstermacher	Vicksburg
Corresponding Secretary	Mrs. William Colmer	Hattiesburg

COMMITTEE CHAIRMEN

Program	Mrs. T. A. Baines	Jackson
Bulletin	Mrs. Augustus Street	Vicksburg
Doctor's Day	Mrs. Lowry Rush	Meridian
Nurse Recruitment	Mrs. S. B. McIlwaine	Pascogoula
Budget	Mrs. Stanley A. Hill	Corinth
Research and Romance of Medicine	Mrs. I. J. Newton	Greenville
Legislation	Mrs. T. E. Wilson	Jackson
Preventorium	Mrs. Ray Biggs	Sanatorium
Revisions	Mrs. J. Rice Williams	Houston
Civil Defense	Mrs. George E. Riley	Jackson
Memorial	Mrs. Gilruth Darrington	Yazoo City

COUNCILORS

First District	Mrs. James Clark, Jr.	Ruleville
Second District	Mrs. R. L. Wyatt	Holly Springs
Third District	Mrs. M. Q. Ewing	Amory
Fourth District	Mrs. A. A. Derrick, Jr.	Durant
Fifth District	Mrs. Temple Ainsworth	Jackson
Sixth District	Mrs. Guy Vise	Meridian
Seventh District	Mrs. Harry Fridge	Hattiesburg
Eighth District	Mrs. R. B. Zeller	Hazlehurst
Ninth District	Mrs. M. M. Snelling	Gulfport

INTERPRETING MEDICAL LITERATURE

Staff of Review

Dermatology—James G. Thompson, Jackson
Otolaryngology—Charles R. Hume
Opthalmology—Edley Jones, Vicksburg
Obstetrics and Gynecology—J. F. Lucas, Greenwood
Orthopedics—Thomas H. Blake, Jackson
Public Health—Felix J. Underwood, Jackson
Pediatrics—Harvey F. Garrison, Jackson
Radiology and Roentgenology—Karl O. Stingily, Meridian
V. A. Pathology—H. N. Naumann, Jackson
Surgery—W. H. Parsons, Vicksburg
Urology—Temple Ainsworth, Jackson

PEDIATRICS

Penicillin Treatment of Syphilis. Arthur C. Curtis, Delmas K. Kitchen, Paul A O'Leary, Herbert Rattner, Charles R. Rein, Arthur G. Schoch. Loren W. Shaffer, and Udo J. Wile. J. A. M. A. 145:1223-26, April 21, 1951.

"Penicillin therapy offers many advantages over any previous method for treatment of syphilis. The most satisfactory type of penicillin for use in treatment employs a slow absorption vehicle containing penicillin procaine in oil with 2 per cent aluminum monostearate (penicillin-aluminum monostearate). The systems of treatment recommended in this report employ penicillin-aluminum monostearate, except where otherwise mentioned.

"If maternal syphilis in not discovered until after the fifth month of pregnancy, it may be too late to prevent infection of the fetus, but not too late to cure the fetus in utero. With a syphilitic infant, the earlier the diagnosis can be established and treatment begun, the better the chance for cure."

EARLY CONGENITAL SYPHILIS (INFANTS UP TO 2 YEARS OF AGE). — The choice of any of the following schedules of treatment depends on facilities available and the convenience to the mother. Equally satisfactory results will occur with each.

Schedule A: 10,000 units per pound of body weight of penicillin procaine in oil or aqueous suspension, daily for 10 days.

Schedule B: 15,000 units of penicillin procaine in oil (penicillin-aluminum monostearate) per pound of body weight, twice weekly for four weeks.

Schedule C: 40,000 units of penicillin procaine in oil (penicillin-aluminum monostearate) per pound of body weight, once weekly for four treatments.

LATE CONGENITAL SYPHILIS (PAST 2 YEARS OF AGE). — Ten injections of 600,000 units of penicillin-aluminum monostearate each, for a total of 6,000,000 units, daily or twice a week for five weeks. These cases are notoriously serologic-fast. This treatment should also be adequate for tradive (over 5 years of age) congenital syphilis. If neurosyphilis is present, the routine of therapy should be the same as for adults. For interstitial keratitis, penicillin alone is not effective; treatment should consist of fever therapy plus penicillin. Recent reports indicate rather spectacular response of interstitial keratitis to the instillation of a suspension of cortisone acetate in strength of 1 per cent into the conjunctival sac.

Pregnant women with syphilis should receive either 600,000 units of penicillin-aluminum monostearate administered twice weekly or 1,200,000 units administered once weekly for four weeks, for a total of 4,800,000 units. When possible, this should be administered during the latter stage of pregnancy, a course of shorter duration is desirable: 600,000 units of penicillin procaine in either oil or aqueous suspension daily for eight days (4,800,000 units). If labor is imminent, it is suggested that a single injection of 2,400,000 units of penicillin-aluminum monostearate be given intra-muscularly and repeated one week later if the patient has not yet delivered. This treatment is recommended for the pregnant woman with previously untreated or inadequately treated syphilis in any phase and is aimed primarily at protecting the fetus.

Reactions to penicillin therapy are the classical urticarial response, the erythematous vesicular desquamative eruption (idlike), direct contact dermatitis, or a serum sickness-like reaction. In recent years there has been a steady decrease in the incidence of all types of reactions to penicillin, due to better purification and the introduction of procaine penicillin.

COMMENT: This is quite an interesting and instructive article on this subject. We felt that it would be of interest to anyone who is attempting to treat prospective mothers or their offspring with this condition.

MISSISSIPPI STATE BOARD OF HEALTH

Felix J. Underwood, M.D., Executive Secretary

MEDICAL LIBRARIES AND MEDICAL ACHIEVEMENT

by
E. Louise Williams
Librarian

It is a pleasure to tell you something of the Medical Library of the State Board of Health. All too frequently, the Library has had to be "discovered" by someone needing resource materials for a scientific paper, and just as frequently we are made aware of the fact that the Library's existence is unknown to many it should be serving every day.

The Medical Library is located in the Old Capitol and nowhere else in the State does there exist as complete a collection of the medical and scientific literature to serve the needs of all the professions engaged in health and medical care. The Library lends both its books and periodicals to any area of the State and thus helps constantly to bridge the gap in the great wealth of knowledge which exists and that which is actually applied. Several times its services may have proved life-saving, when it assembled information regarding an exact technic for coping with some perilous condition or emergency. At all times the Library serves as a place where one can keep abreast of the rapid advances in the scientific field and help gain some perspective for the future.

A real milestone in the development of our Medical Library was realized recently when the monumental INDEX-CATALOGUE OF THE SURGEON GENERAL'S OFFICE was completed. Begun in 1873 by Dr. John Shaw Billings, the INDEX-CATALOGUE has been proclaimed by Dr. William H. Welch as one of the four really great contributions of this country to medical knowledge, "surpassing even the discovery of anesthesia, the recognition of the insect transmission of disease, and the development of the modern public health laboratory." It is indeed a wonderful guide to the literature and gives to us a record of all the rich medical and public health experience of the past, which if properly utilized would give great impetus to further medical progress and research. Much of our own State's medical history, its great epidemics of yellow fever, smallpox, and typhoid fever may be traced through this guide, and on the Library's shelves may be found many of the original items cited. In the conquest of disease, it gives a key to the conclusions reached in the effectiveness of certain drugs or vaccines, thereby eliminating unnecessary hazards in their utilization. Thus, lives may be saved and the costly duplication of research work may be prevented by searching the literature to see what has gone before.

Dr. A. Jacobi, who has been called the "father of pediatrics in America," calls attention to the high esteem in which books and libraries have always been held and the great influence which they have had upon our progress. During the pre-Christian and early Christian eras, books were always among the things robbed, like objects of art pillaged all over Europe by Napoleon. It is amazing to note the size of libraries which the Egyptians as well as the Romans had built up during the period when their civilizations were at their peak. The Egyptians had one library which was said to have contained 700,000 books—and books in those days meant rolls. This great collection was burned by Julius Caesar in the war of 48 and 47 B.C., and the large libraries of Rome suffered a similar fate under Nero. It is a miracle that so much is left of the early literature, and we are reminded that there are practical books among these ancient volumes which can never grow old.

"To consult old books gives us more than a literary or an ethical satisfaction," points out Dr. Jacobi. "The study of old literature teaches us many things. The people who took out time to record their observations and experience usually knew things. If these had been remembered much labor might have been saved. Old books teach us modesty, proving that much that is called 'new' is very old indeed. Some of the teachings of Galen, the most learned and original of the physicians of the first centuries after Christ, are still having to be rediscovered nearly two thousand years later by those who never cared for what had gone before and scanned only the horizon confined between their mental blinders."

Reference:
Jacobi, A.—Some of the benefits derived from Medical libraries. (in vol. 8 of *Misc. addresses and writings* by A. Jacobi., N. Y., 1909).

Oliver Wendell Holmes in his dedicatory address before the Boston Medical Library in 1878, stated, "There is a dead medical literature and there is a live one. The dead is not all ancient, the live is not all modern."

Among our greatest American physicians were Sir William Osler, Dr. Harvey Cushing and Dr. William Henry Welch. They all loved books and there seems little question but that books and libraries had a considerable influence on the degree of greatness they attained. They not only knew how to read. They also knew how to write and those of us today can study their works with both profit and enjoyment. They collected books and gave impetus to the establishment of libraries where others might share their treasures. This opportunity to share such reading adventures through our wonderful literary heritage opens new doors for development of better and more useful citizens and affords fresh perspective for the type of service to which all should feel dedicated. I count myself fortunate to be a part of a Library where I can know its books intimately. One comes to feel that they have a personal acquaintanceship with many of the authors. They each have their own distinctive style of writing, and one soon discovers that books, like people, have personalities and other interesting qualities to which we respond automatically. Journals, too, have their own individual make-up, and their character and color are often determined by an editor who is either a rugged individualist with a zeal for getting the message into print, or more often by a conservative board of editors with a keen sense of responsibility in its accounting and a high and wholesome regard for tradition. Most scientific journals fall into this latter category, but many outshine the others in literary quality, diversity of subjects covered, and in readibility. The State Board of Health Medical Library has a very good cross-section of the journal literature.

Just as public health and the medical sciences can never be static, neither can the Library. It must be equipped to meet the constantly changing needs of the professions whose primary concern is protection against disease and promotion of health and well-being. To supplement its more than eleven thousand volumes of scientific books and journals, it makes free use of inter-library loan facilities when they are needed.

Generous gifts of books and journals are received regularly from physicians and others in the state and from many medical library friends in distant states. The Library is a natural respository for such gifts. It is interesting to reflect that while the State Board of Health Library may seem relatively small and somewhat remote from the large medical centers, it is in reality an integral link in the great chain of medical libraries of the world which are dedicated to the purpose of advancing public health and trying to help the professions do a better job of alleviating suffering and preventing death.

Like a pebble dropped into a pool, the good of the Library radiates in all directions. There is no way of measuring its exact influence upon medical attainment, but there can be no question but that it is an important one.

Case Report—BERMAN

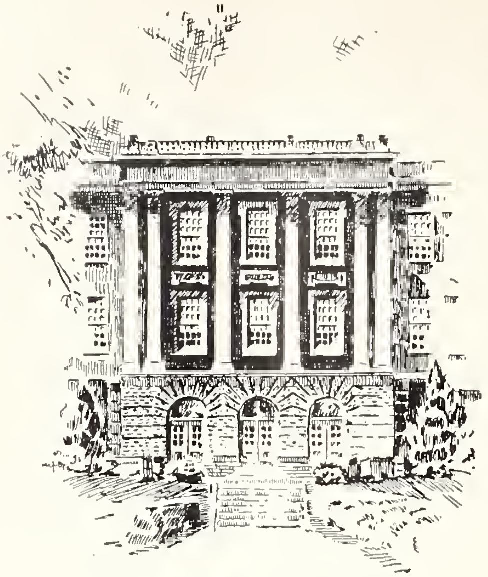
(continued from page 25)

her local doctor who would further regulate her insulin dosage. She was maintained on her trip home on 80 units NPH insulin before breakfast each day.

I have received a report from this patient at frequent intervals since her return home and on April 30, 1952, she reported a fasting blood sugar of 102 mgms. per 100 cc. and is being maintained on 10 units of NPH insulin daily. She is remaining on her diet of 1545 calories daily; carbohydrate 150, protein 90, fat 65. She feels fine and has only lost a few pounds of weight since she has been on this diet. Her insulin is to be gradually reduced and her diet increased according to the laboratory findings.

In going over this case one must think of the work of Mann, Soskin and Associates in hepatectomized animals and isolated livers that show blood sugar regulation residues in the liver and the liver is set to store or secrete sugar as the blood sugar level rises above or falls below a certain level. In abnormal conditions, as in this present virus condition, it may have been set to maintain a hyperglycemic stage.

We understand that Prentiss County is about the best covered county in the state with sick insurance, the majority carrying Blue Cross.



BLUE MOUNTAIN COLLEGE
Blue Mountain, Miss.

In the Last Quarter of a century the status of women has greatly changed. Only a short time ago there were few women outside the home. Today women have entered almost every profession and business. However, this "great emancipation" of women has not changed or lessened the demand for the graces and abilities of Christian womanhood. In fact, there is greater demand than ever before that young women who enter the business world possess the qualities that can best be developed or acquired on a college campus whose aim and ideal is the training of young women in Christian living.

There are many advantages, some tangible, some intangible, offered by our small denominational woman's colleges.

Young women of college age are still in the formative period of their lives. While they are away from parents and home, their teachers exert a great and lasting influence on them. The faculty and staff of Christian woman's colleges are men and women of sterling Christian character who are well trained in their particular fields. They are able to give individual attention to the needs and problems of each student.

Because the student body is small the students have the privilege of knowing everyone and forming many friendships. Practically all of the students are girls whom any mother and father would happily choose as their daughters' friends. The friendly, happy spirit of the students and faculty is an outstanding characteristic of small Christian woman's colleges.

There is another notable advantage of the small girls' school. Every student is encouraged in individual development through the many organizations and campus activities. This is not always true in coeducational schools. No doubt the numerous and varied opportunities for leadership in our Christian woman's colleges account for the fact that their alumnae are almost always the civic, religious, and social leaders of their communities.

These schools almost always achieve high scholastic standing. The Fine Arts Departments are always excellent and offer the very best in cultural development and appreciation for the finer things in life.

Through a well planned program of social activities the students in the small Christian woman's college participate in and enjoy Christian recreation of the highest type.

Alumnae of our Christian woman's colleges have in the past and will always lead in the establishing of Christian homes, the very foundation of a stable society.

The most outstanding advantage offered by the Christian woman's college is not easily describable or definable. It is the Christian atmosphere which is always felt on these campuses. This institution has as its motto: "That our daughters may be cornerstones polished after the similitude of a palace." One of the greatest needs of our modern world is that our young women may be strong and intelligent and fashioned in the beauty and spirit of Christian living. **The Christian woman's college** is the answer.

The Challenge of Retirement*

Edward L. Bortz, M. D.
Philadelphia, Pa.

RECENTLY THE Northwestern National Life Insurance Company asked 3,000 of its policyholders if they planned to retire when they reached the age of sixty-five. Only one out of four said he looked forward to retirement. Thirty-seven per cent indicated they wanted to work at their present jobs as long as they could and thirty-nine per cent indicated a desire or change to a lighter occupation with shorter hours, but they insisted that the work be something useful.

In order that a person of age sixty-five on retirement have an income of $100.00 per month for the rest of his life he must have accumulated at least $17,000.00 Even with this sum the entire principal and interest will likewise be utilized. The retirement problem is being studied by many social groups. Representative Sidney Yates (D. Ill.) has called the attention of Congress to the plight of the older workman. He has appointed an informal committee made up of representatives of twenty-eight states to draw up a national program to create new opportunities for our older citizens. In one of his conferences Yates stated: "Sometimes I think that we are dangerously close to the old Eskimo custom of banishing the aged—of furnishing them with a little food and then leaving them alone on the edge of the community to die. Perhaps they are given a little money—and remember that the average old-age pension in this country today is $43.31 per month." According to Yates, we isolate our older people and then forget them.

It should be kept in mind that those retiring at sixty-five have an average of thirteen years ahead of them, and more than fifty per cent of them will live longer. Thus the paradox—we are living longer but the working period is getting shorter. Only one out of five elderly persons has enough income to live in healthy and happy surroundings. About forty per cent of all older citizens need help from outside sources to insure a decent living. Some 7,000,000 workers are covered by private industrial pension plans, while 55,000,000 are not. Today, even with a tight labor market, the odds against workmen fifty years old of finding a job are approximately six to one. Yet, information from the Bureau of Labor Statistics shows that in the manufacturing industries during World War II workers over sixty-five lost less working time than those in their teens and twenties. Injuries which handicapped the laborer and required only first aid were less common in the age group over fifty than in the younger age groups.

The old man today has become our problem child. He is living longer than ever before and there are many more of him. The proposition of forced retirement at a time when many of these older individuals feel themselves in their prime is revolting. They do not like it. The terms at which they are asked to retire are not adequate to their needs financially. But in a larger sense the needs of older people extend beyond financial considerations. In these needs, and also in the failure to satisfy them, may be found all manner of discontents, disorders, diseases, and depressions. Comes the time of life when individuals should be living in the full bloom of happy maturity and reaping the benefits of a useful career, they suddenly find themselves cast off and without a program for continued activity. No wonder they are bewildered. Why does society and its instrument, modern science, guarantee humanity longer life and take from us the means of self-support?

A top executive of a national bank was retired two years ago at the age of sixty-four. He had looked forward with pleasurable anticipation to freedom from responsibility as well as the time, as he expressed himself, to pursue some activities that he had in mind. Within two months after release from his business activities and contacts he began to brood; he grew introspective, felt that he no longer had any particular program. The activities which before retirement were enticing now seemed to have little value in giving him substantial satisfaction in his daily routine. He lost interest and it was not long after that he developed a profound depression and is now under the care of his family physician. This case can be multiplied many, many times in the experience of practicing physicians.

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*Delivered at the sixty-third annual session of the Mid-South Postgraduate Medical Assembly, Memphis, Tenn. February 12-15, 1952.

The time has come when there must be a new appreciation of the capabilities of older persons. The population shift in our nation shows that seventy-five per cent of the increase during the next decade will be due to people over sixty-five, and that creates a major social challenge. This shift in the make-up of our population has come about so quietly and quickly that industry, labor, and the general public are unprepared to meet it. Heartaches, depressions, despondencies, and failures in adjustment are the result. We are not yet equipped socially or emotionally in our thinking and planning to utilize the gift of additional years. The frustration resulting sets the stage for all manner of illnesses, both physical and emotional breakdowns.

The father of our country, George Washington, retired three times. His reaction to release from responsibility was to become introspective and depressive. As you know, Washington was born in February, 1732. While in command of the Virginia Militia in 1758 he decided to retire at the age of twenty-six because of his health. In a letter he wrote: "I have now too much reason to apprehend an approaching decay." A year later he wrote: "I hope to have more happiness in retirement than I ever experienced amidst a wide and bustling world." At the outbreak of the Revolutionary War he was called from retirement and given command of the Continental Army against his will. He stated with utmost sincerity that he was not equal to the assignment. However, history records that he performed brilliantly. In 1783 at the age of fifty-one he wrote: "The scene is at length closed. I will move gently down the stream of life until I sleep with my fathers." But he was again called from retirement to serve as president of the Constitutional Convention, following which he fulfilled his most brilliant role in life as the first President of our nation. The demands of high office brought forth powers of mind and body which he himself did not believe he possessed. From his letters it appears that while serving his country he was rarely ailing, but during each of the three periods of retirement failing health was a constant theme in his letters.

The Challenge of Retirement

The achievement of modern medicine in the control of disease and the improvement of the general health of the public is bringing about a much longer working life for the average individual. Death rates are falling spectacularly. According to Kirk of the State Department, in the not-too-distant future deaths which occur before the age of fifty from causes other than accidents and violence will be a rarity in the western world.

At the present time some 12,000,000 people, or approximately eight per cent of the total population of the United States, are sixty-five years of age and over. In the last half-century their number has quadrupled while the entire population has only doubled. In 1900 there were 3,000,000 people of age sixty-five or older. By 1975 more than twenty million of our population will be over sixty-five.

The living years of human existence are increasing. Many of our citizens mature relatively late in life. With a rigid retirement program, as we accept today as starting somewhere between sixty and sixty-five, an increasing portion of man's lifetime will be spent in retirement. Loss of employment may be a catastrophe. Health, social, and economic security may be endangered.

Since the turn of the century the proportion of men who continue to work after they reach the higher years has been rapidly decreasing. This may be the result of technological change, occupational shifts, and compulsory retirement programs. Discrimination has worked a hardship on thousands of our citizens who may be forced to retire at a period in life when emotionally and physically their primary need is to be gainfully employed. Hidden talents of many individuals are often uncovered only in later life.

The Meaning of Work

A man's job is his way of life. It is his bond with reality, his contact with the community, his form of participation in the business of purposeful existence. A man's job identifies him with society. It makes him a social and civilized individual. He is securely attached to his job, and through it to the life of society. Sigmund Freud believes that laying stress upon the importance of work has a greater effect than any other technique of living in binding the individual more closely to reality. Work functions as a high form of sublimation which helps to make out of man a social individual. That is why retirement so frequently precipitates a severe emotional crisis—because it represents a breakdown of the pattern which has given to the individual meaning and significance in living.

Work fills many functions in life. One may not be aware of this until the possibility of losing a job of significance becomes a reality. Gainful employment furnishes income, fills in the hours of the day or night, and frequently aids in maintaining physical vigor and vitality. As pointed out by Friedman, a pattern of comradeship and contact with others helps to establish the status in family and community. Beyond these, however, a sense of satisfaction in new experiences and a chance to be creative and to continue working as time marches on gives life enduring significance. Work has meaning for the individual and if these meanings are important, their loss or unsatisfactory replacement in retirement creates a major problem of adjustment.

A job with variety of experience and ever-changing relationships plus continued introduction of new and unexpected developments is likely to be more interesting than the continual recurring piecework assignments. Unskilled and semi-skilled workers may at least superficially demonstrate a minor enthusiasm for their work, but compensatory values may exist in the camaraderie, pleasant surroundings, generous pay with overtime, and rest periods. For piece-work jobs and activities that furnish little variety the organization of workers into unions and labor groups has furnished unexcelled opportunities for self-realization. As Julius Hochman points out, the union gives the worker added stature and insurance, and assures him a place as an individual. Through collective bargaining he becomes a partner in industry. The job and the union give the workman an opportunity to express himself in two important fields.

The problem of the older workman must be examined in the light of his environment and relationships with his associates. His responsibilities and needs, his goal, and his frustrations need be studied within the framework of modern society. Unemployment for the majority of older individuals is the shadow over their future. Work, or its equivalent, must be recognized as a basic human need with respect to economic independence, social status, the satisfaction of living, and the continuance of life itself. As stated in the report of the first national conference on aging, "Man and His Years," if this were not true there would be no objection to compulsory retirement or other methods of achieving a balance between supply and demand of labor. One authority says, "Work is prestige; work is success." It stimulates human relations, it furnishes power. The loss of work robs a worker of status, objective, and important, intimate relationships. A prominent labor leader makes the following comment: "There are deep emotional reasons why workers want to continue at work; it's more than a means of making a living; it's a way of life—life itself."

Granted the workday at a job that offers little variety and versatility may cause the employee to look forward to a time when he is released from this kind of assignment. Some might call it bondage, although there is a considerable difference.

The popular pastime of glorification of youth despite the important advantages of the mature years has been offered as one reason why society has failed to provide suitable alternatives in the later years of life. It may be that our nation's capacity to survive may depend on our ability to produce, and the common practice of shunting mature workmen with experience and know-how out of the production program may represent one of our greatest wastes. Automatic retirement based on age is too naive a solution in the light of important assets which can only appear in many citizens as a result of experience, a deeper knowledge of living, and the wisdom of human problems.

One group of retired government employees, members of the medical corps of the armed forces, come to mind. In training, experience, breadth of knowledge, and understanding of important national problems, probably no other professional group in the classification of our nation's professional population can stand higher than they. Yet, many of these talented doctors in the middle fifties are slated for retirement. This comes at a time when they are coming into the full development of their mature powers. Of course, from the armed forces they enter into many fields of useful service to community and nation. The communities where they settle gain and the government loses by adherence to an outmoded program of retirement.

Recently Lansing P. Shield, president of the Grand Union Company, wrote an interesting article on the title "What Is Wrong with Work." He compared civilizations of older times—the Roman Empire and others of the Dark Ages—when contempt for work was the attitude of large numbers of citizens. Contempt for work is the mark of a decaying society. Work is stimulating. In moderation it is the best way of increasing longevity. When retirement means transfer from an active to an inactive program, it adds up to discontent, unhappiness, and, all too frequently, illness. When purposeful work is replaced by aimless living, neurosis and depression appear. Work purifies a man according to this authority. Work is life itself. The dignity of work furnishes dignity for living.

There is an important law of physiology known as Starling's Law. It states that the contractile response of muscles is determined by the degree to which the fibers are stretched immediately before traction. This interpreted means that for physiological parts to exercise is a normal function of the body. Stretching muscles, and, indeed, stretching the mind, is a characteristic of growth.

The Perils of Disuse

Inactivity, aimless living—lack of a sustaining force in a day's routine—the separation from responsibility and contact with fellow workmen sets the stage for profound medical problems. The muscles of the body, accustomed to routine assignments in carrying out occupational functions, when deprived of the stretching stimulant, soon lose their tone, become flabby, and invite decay. Of more significance is the corresponding train of circumstances that take place in the mind and emotional make-up of the individual. Deprived of significant assignment the muscles—indeed the entire personality——is endangered.

The Threat of Leisure

Retirement from activity to inactivity often precipitates discontent,unhappiness, and illness. Retirement from gainful work to aimless living sets the stage for neurosis or depression. Social disarticulation, a term used by Cameron, invites disaster. Tensions may develop to be followed in turn by any number of bizarre clinical symptoms or, again, a feeling of hopelessness on being "put on the shelf" indicates that the process of living has lost its significance.

Freud believed that laying stress upon the importance of work has a greater influence than any other technique of living in binding the individual more closely to reality. At his work a man is at least maintaining communal contact and participation. Work identifies the individual with society and its loss isolates him. Forced retirement may precipitate a severe emotional crisis.

Enforced idleness due to lay-off or unemployment can hardly be classified as leisure, though they both may bring about the same unhappy results. There is a biological axiom that organisms, organs, and tissues tend to die when they no longer serve a useful purpose. An aimless existence is an intolerable one and nature will have none of it. The debilitating effects of advancing years cannot be laid entirely to changes in structure with time. The loss of sustaining habits and motives which keep an individual in energetic competition to earn his daily bread may produce in a susceptible individual a definite neurosis. The loss of incentive, the loss of driving power—that something which keeps an individual in tow and in tune with his fellow man—changes him from a contributing member to a parasitic member of the social group. Then he begins to look for signs of approaching decay. He studies his anatomy and reviews one organ after another. The internal arrangements come into prominence. It is possible for an older man with nothing else to do to concentrate his attention upon some aspect of body function to such an extent that in a comparatively short time the parts become responsive to conscious thought. Minor derangement of the digestion, the heart action, or the kidneys come up for inspection. An idle person looks himself over for evidence of decay. In so doing he invites that process. Too much thinking and too much amateur anatomizing and self-purging, which an old person can easily become addicted to, starts the train of circumstances for which the family doctor must be called. Of course, these complaints may not kill an individual, but they can make him very unhappy and sometimes somewhat of a nuisance. Roy Helton has pointed out that for any individual to retire to a parasitic life is for him to condemn himself to a position which is defenseless against nature. It does not matter much whether a man becomes a charge upon his children or society, or upon the efforts of his own youth. If he is able of body and mind, and he is willing to be forced out of the useful arena of life to become supported by society, as he withdraws from life he is inviting life to retire out of him.

Emotional depressions disturb the appetite, the bowel function, may bring about an advanced anemia, and all manner of circulatory disturbances. Frustration and rejection may, and frequently do, produce a retreat from reality that aggravates all of the popular and recognized signs of premature senile decay. Retirement from activity is a dangerous move.

Leisure becomes intolerable when an individual becomes useless. His protecting mechanisms tend to close the doors on reality. With the increasing number of healthy older people who are able to work it now becomes a matter of first importance to avoid the threat of enforced leisure. In numbers alone in the future American politics may be controlled, indeed may be in the hands of the premature senile population, for it has been emphasized by Helton and others that any world in which the accent of economic life comes to fall upon an idle old age of living in plenty without toilers at work is not practicable for human nature. For the good of everybody the old should work to preserve the function of their bodies and their minds. They should be kept active. Not necessarily may the activities be in competition with younger individuals, but in all of the supplementary activities which are needful for a balanced civilization.

The present nationally-accepted custom of throwing a large and politically important group of citizens into retirement at a time when they are enjoying the benefits of maturity is dangerous first to the individuals themselves and a dangerous threat to our national existence. It is now coming to be recognized that relinquishment of function is the cause of much physical, emotional, and mental unhappiness in old age. To force that fate of social uselessness upon our older fellow men, whether they like it or not, is an evasion of a problem that is confronting us and can no longer with safety be ignored. The skills acquired over years of performance may in a matter of months or even weeks be lost with inactivity.

Political programs for social security offering a certain amount of financial support for individuals in the post-retirement years is turning out to be the most expensive and inefficient form of insurance that has ever been advocated. Of the fabulous sums of money which are poured into the government treasuries only a relatively small amount is returned in the form of stipends for older people. Also, in passing, it should be kept in mind that the funds collected for social security are not saved for that purpose, but are dissipated into other government channels. The point we want to emphasize, however, is the tremendous waste in manpower for our nation and the creation of a set of circumstances by retirement that must encourage the deterioration of the individual. And yet, one government social worker some time ago made the following statement: "I don't see why old people want to work. Our whole program is set up to take care of them when they are no longer employed." This represents a system of thought which is common in the minds of too many government social workers. It exhibits a complete lack of appreciation of the basic need for satisfying employment. The majority of older people who are not at work today are not voluntarily idle. With the present critical international situation our country cannot afford to waste the productive capacities of its older citizens.

Dr. Griswold, president of Yale University, in a recent statement called attention to the fact that today the world is divided by two political philosophies. One proclaims man's mechanistic fate as a specie; the other proclaims his creative destiny as an individual. At the moment Griswold believes that the mechanistic idea is in the ascendancy. It is promoted by big dictatorships now governing nearly half the people of the world. Never, according to Griswold, in the history of the world has the individual had to defend his birthright against such terrific odds. The strength of the nation is in the strength of the individuals that compose it. And in a wasteful and outmoded retirement plan we are submerging priceless national resources. In times of national peril when the mechanistic and dictatorship form of government seems to be in the ascendancy the individual, when threatened by extinction, comes to the stage again with fresh and more dynamic action.

Positive Values of Retirement

While many older individuals have no thought of retiring at any age, nevertheless larger numbers are looking forward happily to the time when increased freedom from responsibility will give them opportunity for the pursuit of hobbies long held in abeyance or inadequately enjoyed. For those to whom financial security is guaranteed the problem is less complicated.

Sometime ago in an endeavor to find out what the principal desires of older people were we interviewed a large number. Also, we conferred with a number of sociologists and psychologists. Briefly, the top desires of older people fell into certain categories. First they wanted to enjoy good health; second they desired to have a gainful and interesting employment; third they desired companionship; fourth they wanted security; and fifth a sense of dignity in daily living. It has been said that the younger the individual the more glamorous does the period of retirement appear. As the time draws near, certain misgivings may be experienced.

The way it appears now more individuals are going to be surviving 100 years or even longer. This gives a man a long time following sixty-five. If he is going to preserve his emotional and intellectual vitality, it behooves him to have a program that will satisfy both. To preserve significant living the emotional content of the individual's life is vitally important. The surplus of hope over despair, of affection over indifference, of an absorbing motive over resignation, retirement should furnish an individual larger opportunities for the enjoyment of life and those interests which for him are significant. The fight against growing old is not so much a matter of duration as it is for the preservation of the capacity for happiness and interesting living.

It should be pointed out that the human body can continue to exist with many of its parts disturbed or removed. By the incapacity or elimination of one part other forces within the individual may even improve and become more efficient. This, as pointed out by Martin Gumpert in the January issue of Harper's Magazine, is known as the principle of productive loss. And this is really what happens as we grow older. An old age of substance means growth in beauty and harmony. Louis Pasteur led an active and highly creative life for twenty-eight years after he had suffered his first serious apoplectic stroke. Too many individuals today on retirement or on the development of some physical disability accept with resignation a semi-invalid status. But a new creative work begun in the higher years of life assists the individual to be useful, to forget many aches and pains, and to engage in purposeful activity that may take on an importance far greater than was the daily routine before thought of retirement. The time of withdrawal from active routine duties may furnish opportunity for individuals to gain in value through the actual process of aging, of maturing, what counts most is the capacity of the individual to maintain unity of performance, interest, and activity. The bliss of growth is not a mere poetic commonplace. To express oneself as an individual and continue in that unique performance identifies him as a person and preserves his individual and social values.

New York State is to be congratulated for its vision in planning for its older citizens. In a recent attractive brochure entitled "No Time to Grow Old" published under the supervision of the chairman of the New York State Joint Legislative Committee on Problems of the Aging, Senator Thomas C. Desmond, a series of interesting articles is offered which brings much light on this problem of retirement. They reprint some data from a publication of the Standard Oil Company of New Jersey. Seven sensible steps to a healthier, happier retirement life are offered. These are: first, to eat properly; second, to be moderate in all activities; third, to get enough rest; fourth, to consult one's physician regularly; fifth, to have enough exercise; sixth, to preserve the sense of humor; and seventh, and probably most important, is to keep busy. Retirement from a job need not bring about retirement from society. Opportunities for the second career in one's life are now becoming more evident as plans for retirement take on added incentive. Skills and experience acquired over a period of years may with profit be directed to perplexing problems of community life. As the body slows down physically, one matures mentally and the capacity for productive work may increase.

The Age of Retirement

In the last quarter-century the age at which men have been withdrawing from active work has been decreasing. There is some evidence of a decline in the number of men working between the ages of fifty-five and sixty-five also. In 1890 the percentage in this age group was 89. In 1940 it was 84.5; in 1950 the percentage of workers for the group of fifty-five to sixty-four years of age was 85.3. The same tendency is noted in the statistics of other countries—for men to cease active work at an earlier period. The conditions which are bringing about a diminution in the active working lives of able-bodied men appear to be found in the social and economic evolution of the entire western world. Some of these forces make it easier for men to retire voluntarily. Others tend to force them to retire.

The increase per capita of real income makes it easier for men to save sufficient to enable a relatively early retirement from labor if they so desire. This may be more apparent than real because as living standards have risen along with income, the amount of savings required to finance retirement satisfactorily has increased. The falling value of money has also increased the amount required to retire.

Another so-called voluntary factor is the evolution of various old age security programs under the sponsorship of the federal government. Company and union retirement plans are also an important influence. Economic forces at work may be noted in the techniques of production which makes it increasingly difficult in the long run for older workmen to remain in the labor market. There is keen competition for jobs, and with the appearance of any handicap—such as a mild slowing down due to growing older—the competition works against the older workman.

There is a trend toward forced retirement, but it is difficult to state whether the factors encouraging voluntary retirement have been more important than those tending to force a man out of a job. It appears that the trend towards earlier retirement is largely an involuntary one. The greatest reduction in the numbers of older workers occurred during times of economic depression. With less demand for labor the younger workman is favored. During the 1930-1940 depression the largest reduction of all took place in the number of older men being involuntarily retired. The second largest was during the depression decade of 1890-1900. The rural and farm areas where the labor force is less affected by the insecurity of wage employment have relatively more older men at work than are found in urban areas.

The time has arrived when a fixed retirement age is no longer adequate to the needs of the individual, the industry, labor, the community, or nation. New means of determining the individual's capacity for carrying on must be examined in the light of changing conditions.

The Meaning of Retirement

Originally the pension programs were developed for executive personnel in industry to encourage their retirement. In this way private industry relieved older executives of employment and made room for younger men with new points of view and talent and opportunity for experience. New persons were looked upon as more valuable. From the executive branch this practice has been carried over to the large group of laborers. As the first and original pension programs required long service and predominated in industries like the railroads, the utilities, and other service, the financial arrangement was not difficult. The high and continuous service requirements eliminated a large number of potential beneficiaries. At the present time neither the executive nor the labor group appears generally in the mass. The most essential part of planning for retirement now is a financial one. When this is not adequately taken care of, hardship must result.

Retirement obviously means different things to different people. If it is accepted as a period to be feared, a final time of uselessness and dependency on others, then trouble must ensue. A barren and unproductive period between regular employment and death is a tragedy which must at all cost be avoided. Cochran of the Eastman Kodak Company believes that retirement should be a time for taking up new and useful activities which are adapted to the older individual's capabilities and which do not demand his participation beyond voluntary limits. The man himself must develop his interests and resources over the years against the day when he is free to leave his regular job. At all ages men seek for self-realization and have the desire to carry on. Will regular employment continued fulfill his wishes, or is it not more likely that an individual when free to apply his efforts and talents either in normal activities at a reduced rate or in entirely new fields be the means for self-realization? This period of transition, if unsatisfactorily conducted, may bring about a large amount of unhappiness and sickness.

Planning for Retirement

With a definite chronological age at which workers are expected to retire authorities point out that this is helpful because there is a definite knowledge that at a specific age retirement will come. Therefore, there is opportunity for preparation financially and emotionally to meet this deadline. Some large companies have found that as high as forty per cent of individuals coming close to the retirement period were leaving in advance of the compulsory date. Those who favor this plan point out that with the removal of one top-flight executive or laborer there may be promotions for five to twenty individuals at lower work levels. This has a buoyant effect on morale and efficiency.

On the other hand if automatic retirement age is eliminated, each case will then need be handled individually with the result of a battle between the worker, his employer, the union, and his physician. In the final analysis the man who is an able-bodied, efficient worker who desires to keep on working, and, however, is refused the privilege of continuing because of a numerical age is the one whose needs must be satisfied. The general opinion today is against compulsory retirement fixed on chronological age alone.

In any event the necessity for pre-retirement counselling becomes evident. Industry and labor today are diligently studying all aspects of this problem. The Standard Oil Company of New Jersey is furnishing enlightened leadership in bringing to its employees who are approaching the retirement period information which will help them prepare and look ahead. They promote a positive attitude in planning post-retirement activities. In this way the unavoidable changes in the social and economic conditions following retirement may be minimized. The transition year may be a difficult period for the worker to adjust himself from the role of an unemployed member of society to that of a retired citizen.

Research investigations are indicated to study the attitudes and motivations of the retired workman. Study groups in colleges and universities are now recognizing the need for more specific information. Adult education with particular emphasis on the needs of the large number of individuals facing retirement is essential.

Preventive geriatrics looms before the medical profession as one of its major challenges. The hardships and suffering, diseases and depressions attendant upon lack of adjustment, lack of ability to meet the challenge of retirement is a job which the medical profession must accept. Here is a great opportunity to solve the problem before it arises.

Reaping Wisdom's Harvest

In the current publication of the New York Legislative Committee on Problems of Aging entitled "No Time to Grow Old" is found an interesting discussion on wisdom's harvest. Miss Agnes DeLema of the new school for social research has studied ten scholars with a total age of 706 years. These ten professors in the opinion of Dr. Hans Simons, president of the school, are better teachers than ever before. Having been ripened by the years they have gained in perspective and have attained a maturity and a fullness of understanding impossible to be found in younger men. Intellectual achievement and wisdom is a characteristic of maturity and age. Knowledge comes but wisdom lingers. For every youthful genius two geniuses in the mature and older years may be found. Of the thousands of teachers and workers retiring this year there are hundreds who have better work to do in the near future than they have performed in the past. Our elder statesmen furnish the hope for leadership in our time of national peril—not only leadership but the performance of work. Work assignments somewhere in the national economy must be planned in order that the optimum resources of our nation may be developed. One of our outstanding elder statesmen, Mr. Bernard M. Baruch, mentioned the increase of man's life span by eighteen years in a period of fifty years as having more profound medical, economic, and social implications than the development of atomic energy, air transportation, and communication. While this spectacular increase in man's life span has occurred in the first half of the Twentieth Century, new and difficult problems are arising in the utilization of these added years to human existence. The shadow of compulsory retirement, when a workman is performing at optimum, may chill his heart years before the deadline. Years ago there was emphasis on the youth movement. The time has come when emphasis on an age movement is the need of the times. Specifically the key problem of older workers today is the challenge of retirement. The medical profession is obligated to interest itself and assume leadership in protecting older members of society against the deteriorations that come on with the threat of retirement. Doctors, as a rule, as a group do not retire although there are numerous instances of individuals forsaking the profession and moving to a farm or to some other field of activity. As a rule, however, their interests are so varied and their work so interesting that they develop a maturity and intuition with time that makes them all the more valuable in their service to their patients. The same goes with numerous other professions.

Fulfillment

The challenge of retirement for large numbers of our citizens must be met. We must realize that no longer do we have a nation of young people. In the last fifty years the number of older citizens has quadrupled while the total population has only doubled. The period of life after retirement has increased. Shall it be a mere prelude to death, a period of stagnation? Although there is some moderate slowing down of physical activities, nevertheless it has been proved that mental processes may carry on at a higher level of performance into the upper advanced years. Also, perhaps the same factors which produce greater longevity are also producing greater vitality and physical stamina. Therefore, our older citizens are able and capable of functioning as useful members of society. At the summit of the years they should have the privilege of enjoying the benefits of arrival.

In "De Senectute" Cicero has offered a wholesome formula for the fulfillment of human existence: "But it is our duty, my young friends, to resist old age; to compensate for its defects by a watchful care; to fight against it as we would fight against disease; to adopt a regimen of health; to practice moderate exercise; and to take just enough of food and drink to restore our strength and not to overburden it. Nor, indeed, are we to give our attention solely to the body; much greater care is due to the mind and soul; for they, too, like lamps, grow dim with time, unless we keep them supplied with oil. Moreover, exercise causes the body to become heavy with fatigue, but intellectual activity gives buoyancy to the mind."

Senator Desmond of New York has included in the brochure of his Committee on Problems of Aging entitled "No Time to Grow Old" the following lines:

On Growing Old

Let me remember this as I grow old:
Never to flaunt the virtues of my day
In face of what those who are younger hold
To be the better, more expedient way.

Let me remember too to step aside
And let the eager flood of youth sweep by,
Taking great care lest I impede the tide
With slowing step or less discerning eye.

When that day comes may I be wise to choose
A course that calls for ever slackening speed
And yet a course in which I shall not lose
The wish to meet a fellow traveler's need.

Then as I walk this ever broadening track
Let me resist the urge of looking back.

Bessie Wolvington
2021 Girard Ave.

Tuberculosis is a personal tragedy and a community problem. It begins with the individual and must be fought in the individual and in his environment.

Once the diagnosis of pulmonary tuberculosis has been confirmed, assuming a reasonable degree of intelligence on the part of the patient, the first obligation facing the attending physician is to explain carefully to him some of the fundamental characteristics of his disease and advise him on a course of treatment in the light of what is known at that time about the patient's physical, emotional, and economic condition. The physician should begin to "condition" the patient for the journey ahead of him.

Pulmonary tuberculosis should be regarded as a potentially curable disease, if by "cure" is meant the return of a patient to gainful occupation for a period of five years or more without detectable reactivation of the disease. In one excellent tuberculosis institution it has been demonstrated that such "cure" can be affected in 98 per cent of minimal cases, approximately 85 per cent of moderately advanced cases, and in even 40 to 60 per cent of far-advanced or most hopeless cases, with the application of scientific knowledge currently available and the active cooperation of all concerned, for an overall "cure" rate of approximately 80 per cent.

Etiology and Treatment of Postpartum Hemorrhage*

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THE MATERNAL MORTALITY in America has been reduced markedly in the past few years and compares favorably with other countries. However, the deaths from hemorrhage still remain higher than necessary and account for a large percentage of the mortalities each year. Hemorrhage occurring after labor is designated as postpartum hemorrhage and accounts for most of these deaths. Such an instance can occur anytime after labor until the puerperium is ended. Those which occur within the first twenty-four hours are classified as primary or early postpartum hemorrhages, and those after are designated as late or secondary postpartum hemorrhages.

A loss of blood during the postpartum time varies in each individual and effects each patient differently. Some women, healthy in all respects, can lose 400 to 500 cc. of blood without signs or symptoms of blood loss, while a weaker sister will pass into profound shock with half the loss of blood. It is necessary then to consider each patient as a possible poor risk and attempt to protect her against even minimal amounts of bleeding. It has been long told that most patients lose from 200 to 300 cc. of blood with each delivery. Even this amount of blood loss seems far too much in these times. When we consider the possible reason for bleeding after labor, many factors must be considered in their entirety.

PREGNANCY AND ITS PREPARATION FOR LABOR

During the months of gestation after conception, many physiologic changes are invoked in the maternal structure. Some general conditions improve the maternal organism while others tend to act deleteriously. During these nine months, the fertilized ovum has implanted itself into the endometrium, the placenta has been formed, the fetus grows and reaches maturity. To accomplish this fetal development and all of the other alterations noted during pregnancy, the function of many organs are affected. There are the hormonal influences, nutritional demands, chemical alterations, and changes in the blood although the increased amounts of estrogen, progesterone, and adrenal steroids which occur during the prenatum are responsible for fetal growth, they also have a general effect upon the maternal organism as a whole. These hormones stimulate the general metabolism. This is observed in one way by the gain in bodily weight. Such increase is generally due to retention of salt and water and the direct deposition of fat. In some individuals this is allowed to go on in excess so the amount of weight gain, either due to fat deposition or the retention of fluid, is far out of proportion to the safety of pregnancy. Such deposition of fat in the tissues, particularly about the uterus and perineum, creates the opportunity for prolonged and difficult labor. Also, the active retention of salt and fluids may produce some difficulty during labor by causing edema of the pelvic structures, particularly the cervix. This swelling of the tissues causes friability of the soft parts, encourages laceration, and results in greater blood loss. This alteration then has a bad affect upon the body.

Together with these physiological changes which may be due to the hormonal stimulation, there are also changes in the blood content of the body. To allow for the blood loss at time of labor, nature attempts to increase the blood volume. It also increases the total number of blood platelets in order to improve the clotting mechanism and moderately increases the leukocytes thereby helping to combat the possibility of infection. It is hardly conceivable, however, that in the presence of a parasitic organism, as we must classify the growing fetus, that the quality of the blood can become improved during the gestation. In fact, it is generally quite the contrary. The blood generally becomes depleted in quality, if not entirely in quantity. Although it is an accepted fact that the blood volume itself increases, the cellular content of the blood is not improved. It is also true, if the patient is already in an anemic state, that the fetus will obtain the constituents for blood making, regardless of what effect it may have upon the mother's blood.

The nutritional status of the patient also not only affects the quality of the blood, but involves the total maternal organism, and will have a profound effect upon labor and its relationship to hemorrhage. Therefore, we note in the patient whose diet has been deficient, particularly in protein, essential vitamins such as vitamins A, C, D, E, B, and K, that the possibility of anemia increases. Therefore, one must explore each patient early in the prenatum to determine the general condition of the individual and also to be satisfied that no other pathological condition exists such as blood dyscrasia itself. There are certain blood dyscrasias that may become chronic and are almost certain to produce bleeding after labor. Such things as sickle cell anemia, Mediterranean anemia, thrombocytopenia purpura, primary anemias, simulating pernicious anemia, leukemias and other blood dyscrasias may be present and may become worse as pregnancy goes along. These conditions may cause bleeding anytime during labor, but particularly during the postpartum period. It becomes essential then that in each case of pregnancy, that the general status of this individual be evaluated early in the gestation. This preparation consists of a careful physical examination; a careful analysis of the quality of the blood. The patient must be seen early in gestation and frequently throughout its entire period and certain observations must be consistently and continually made throughout that period. The control of the diet must be emphasized to prevent excessive deposition of fat and gain of weight. Included in the diet there should be adequate amounts of protein and leafy vegetables which contain the natural iron and other foods which are essential for tissue and blood building and not fat producing. Curtailment of salt and fluids during the last trimester should be insisted upon. This will definitely prevent the increased edema of the parts and deposition of fat. These things can be controlled by insisting upon dietary discretions and checking the patient frequently. If there is a blood dyscrasia such as a microcytic type of anemia present, the blood should be prepared by increasing the intake of iron, protein, and vitamins or even by the giving of a blood transfusion during the period of gestation. If a definite blood dyscrasia is present, the condition of the blood should be watched more closely and more frequently and careful planning of the labor and delivery should be considered long before labor begins.

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There is no other condition in medicine probably that gives the physician such an opportunity to prepare his patient for the ordeal of a surgical procedure which the labor presents to us. If we have conscientiously instituted good overall prenatal care and prepared our patient for the process of labor, then we come to this time feeling that the patient herself is in satisfactory condition and that she will stand the process of labor without difficulty.

LABOR AND ITS EFFECT UPON HEMORRHAGE

Labor itself lays the ground work for the possibility of hemorrhage. Every woman going through this process must be considered as a possible candidate for such a catastrophe. Pressure exerted by the descending fetal part upon the dilating cervix may lacerate it. The passage of the fetal structure through the bony pelvis stretches the softened tissues of the mother to capacity and in most cases causes invisible if not visible laceration. The natural engorgement of the pelvic tissues with blood has taken away the natural resiliency of the tissue, and predisposes to laceration, particularly when forceful extractions are performed. The hours of discomfort cause fatigue and relaxation of the contracting uterus. All of these things are made worse when there has been a marked gain of weight, either due to fluid retention or fat deposition, or when the patient has not been properly prepared for the ordeal of labor.

Certain complications of labor are almost certain to increase the possibility of hemorrhage after delivery.

1. Prolonged labor due to disproportion between the fetal body and the pelvis.

2. Cervical dystocia either due to fibrosis of the cervix or pressure of the presenting part upon the bony pelvis hindering the retraction and dilatation of the cervix.

3. Unusual positions such as brow, face, posterior positions, and breech cause greater stretching of the soft parts due to a larger presenting part which must pass through the pelvis.

4. Primary and secondary inertia, when the uterus, due to over distention or fatigue, fails to contract in its usual manner.

5. Fatigue due to prolonged labor not only has a general effect upon the body, but also a profound local reaction.

6. Deep narcosis created by too much analgesia and anesthesia diminishes uterine contraction and causes inertia.

Therefore, careful observation of the patient during the first and second stages of labor will give an insight as to whether the patient will hemorrhage, and preparation can be made available to combat this complication.

MECHANISM OF THE THIRD STAGE OF LABOR

More women die during the third stage of labor and immediately after than in the first and second stages combined. It is, therefore, necessary to observe the patient carefully during this time and to know the mechanics by which the placenta is separated and expelled from the uterus. After the uterus has emptied itself of the fetus, it still contracts and retracts as it has done during the first and second stage of labor. This contractility of the uterus causes the placenta to separate in the decidua basalis where a small collection of blood or hematoma seems to occur. This hematoma is increased by the further contractions and retractions of the uterine muscle and by this mechanism separates the remaining portion of the placenta from its attachment to the uterus. The separation of the placenta may occur almost immediately after delivery or it may take some minutes or even hours before the separation is completely accomplished. It is necessary then to appreciate that separation must occur before expulsion of this structure can be accomplished. Many cases of postpartum hemorrhage are invoked by the anxiety of the physician himself when he attempts to separate the placenta before it is prepared to be detached from the uterine wall. Enthusiastic rubbings, squeezing of the uterus, may not only bruise the uterine muscle, but also may partially separate the placenta and create a considerable amount of bleeding from the separated portion. Expression of the placenta should not be attempted until the separation has been completed.

Some have designated the period just after the expulsion of the placenta as the fourth stage of labor because there is also a certain mechanism involved during this time. It can be stated again that the uterus continues to contract and retract in its usual manner in an attempt to control the bleeding. This contractility of the uterus is absolutely essential because it must be remembered that the uterine sinuses do not become equipped with a fibrous wall which can expand and decrease the caliber of the vessel similar to other arteries in the body. Each uterine sinus is composed only of a single layer of endothelial cells and must depend upon several features to control the bleeding.

1. It depends upon the squeezing effect which is created by the contraction and particularly the retraction of the uterine muscle fibers.

2. It depends upon the ability of the blood to clot within the blood sinuses in order to plug these vessels with blood clots so that bleeding cannot occur.

Therefore, a well contracting uterus and a blood that coagulates quickly pinches off the uterine sinuses and stops bleeding soon after the placenta has been expelled.

It is, therefore, essential to understand all of the factors which may contribute to the etiology of postpartum hemorrhage, and all efforts should be made to avoid excess bleeding at anytime during the labor. Although these general influences affect the process of labor and thereby contribute to the incidence of postpartum hemorrhage, certain local factors are specifically involved when this complication occurs. They can be classified as follows: (1) Atony of the uterine musculature, (2) Laceration of any portion of the parturient canal, and (3) Retained portions of placenta, membranes, or blood clots.

UTERINE ATONY

The most common cause of postpartum hemorrhage is atony of the uterine muscle. This constitutes about 90 per cent of the cases. Uterine atony may be primary or secondary.

In cases of primary atony certain degenerative changes within the uterine wall frequently exist and create failure of the contractility and retractility of the uterine muscle. Such atony is probably due to the degenerative changes in the muscle fibers themselves and also to a deposit of fibrous tissue within the muscle fibers. Severe anemia, malnutrition and myometritis may give rise to such changes. They are also seen following frequently recurring pregnancies. With over distention of the uterus such as hydramnios, twins or fetal monstrosities, primary inertia frequently follows the delivery. Such is also the case when the normally distended uterus is too rapidly emptied. Other causes of over distention of the uterus can be multiple pregnancies, fibroids of the uterus, and an exceptionally large fetus, which all stretch out the uterine muscle so that its tone diminishes in quality and following labor it fails to contract and retract in the normal manner.

Secondary atonia rises from impediment to uterine contraction which acts either mechanically or through the nervous control of the uterus. Most frequent is the presence of the placenta or membrane or portions of these organs which are retained. Too rapid expulsion or extraction of the placenta or fetus leaves the dilated uterine sinuses to bleed before thrombosis can occur. Pressure from a distended bladder or rectum may also inhibit normal contractions of the uterine muscles. Various malformations, whether congenital as bicornate uterus or acquired as myomas, may interfere with the proper closure of the bleeding sinuses. Scars in the uterine wall following previous operations or adhesions to contiguous organs frequently interfere with proper contraction of the muscles. Hemorrhage may occur after such complications as abruptio placenta, placenta previa where in the former situation there has occurred hemorrhage into the uterine musculature itself. This hemorrhage into the muscle of the uterus creates dissociation of the fibers, fragmentation of the muscle cells, and thereby failure of contraction. This is particularly found in the Couvellaire type of uterus where there is a greater possibility of massive hemorrhage and failure of the contraction of the uterine body. Prolonged labor which results in fatigue also may have an important part in causing relaxation and inertia of the uterine musculature after expulsion of the fetus and placenta.

LACERATION

Lacerations may be divided into those which occur in the lower birth canal and those which arise in the upper birth canal.

Lower birth canal lacerations: Trauma associated with rapid or difficult delivery is the usual causal agent in lower birth canal hemorrhage. Laceration of the cervix from forceps, manual dilatation or rapid extraction of the breech often results in cervical blood vessel injury. Excessive bleeding from a complete annular detachment.of the external portion of a rigid cervix may occur. Cases of placenta previa, dystocia due to disproportion and a rapid labor may also cause lacerations of the cervix. It must not be forgotten that lacerations of the cervix may extend to involve the lower segment of the uterus thereby causing an actual rupture of the uterus itself. This may occur particularly when a placenta previa has existed. In this situation the large blood sinuses which are found in association with placenta previa, are not clamped off by the contraction and retraction of the uterine muscle and due to laceration will bleed very profusely. This situation may also be associated with atonia of the uterus and the combination of the two make the situation very serious.

The vaginal walls, the perineum, the vulva, the clitoris and the perineal-urethral region may be lacerated by forceful delivery or in some cases by precipitous spontaneous childbirth.

Varicose veins of the vagina are occasionally ruptured with profuse bleeding or hematomas may develop following rupture of the deep vessels. If hematomata occur above the levator ani muscle, they at times may dissect upward into the broad ligaments in which case the control of bleeding is often extremely difficult. Injuries to the lower birth canal do not as a rule give rise to dangerous hemorrhage, since the diagnosis is not difficult and the treatment is more simple.

Upper birth canal lacerations: Most fatal postpartum hemorrhages arise from laceration of the uterus itself. Lacerations which have extended upward from the cervix into the lower uterine segment particularly after forceful delivery through an undilated cervix are particularly dangerous. Uterine rupture during delivery occasionally occurs following previous hysterotomy, after breech deliveries or where there has existed a disproportion. When this situation arises, hemorrhage as a rule is less pronounced than the shock under such circumstances. In this situation the body of the uterus may be firmly contracted, but the bleeding might not only be profuse externally, but also may occur into the peritoneal cavity. Other conditions which may cause intra-abdominal hemorrhage are such things as uterine rupture of an aneurysm of the uterine artery or varicose veins in the broad ligament or even veins located retroperitoneally. Atonia and laceration may go hand in hand and cause profuse hemorrhage.

RETENTION OF PLACENTAL FRAGMENTS

Retention of the placental products generally does not cause immediate hemorrhage, but is more prone to create bleeding later in the puerperium. However, retention of large portions of the placenta may cause relaxation of the uterine body and create bleeding during or soon after the third stage of labor.

BLOOD DYSCRASIAS

Although many state that certain blood dyscrasias may create bleeding due to poor clotting of the blood, it has been my experience that most cases of postpartum hemorrhage are particularly caused by some local complication such as previously described. However, it must be remembered that certain types of individuals may have greater bleeding tendencies than others, and when this possibility is realized, certain prophylactic measures should be carried out before the patient actually proceeds to the third stage of labor.

SYMPTOMS AND SIGNS

Recognition of postpartum hemorrhage is not difficult. The problem is that of deciding the origin of the bleeding. Hemorrhage from the lower genital tract is as a rule more steady in character and the blood is often lighter in color. Furthermore, lacerations are diagnosed by inspection. Hemorrhage from the upper tract may be concealed if the cervix is occluded or the uterus is noncontractile. In such cases the first symptoms may be those of beginning hemorrhagic shock. Pressure upon the boggy fundus uteri which will be found above the umbilicus, expresses an alarming amount of dark blood and blood clots. It is said that the bleeding from the uterine cavity usually occurs in gushes following contractions of the uterus. This is not, however, a dependable diagnostic sign. It is well first to be sure that the uterus is well contracted. If bleeding continues, careful inspection of the lower canal, especially the cervix and vaginal walls for laceration, should be done. Hemorrhage may be slow and steady and over a period of a few hours may result in a huge loss of blood. The general condition of the patient may remain surprisingly good when suddenly there occurs a state of complete shock with all the clinical manifestations. The effect of hemorrhage will depend upon the condition of the patient, the status of her blood, as shown by blood studies, and her resistance. In a few instances the patient may not experience any of these signs and may pass into deepening shock without external bleeding. When this situation arises one must immediately examine the patient and suspect a uterine rupture. The site of the rupture is generally located laterally in the lower segment and may extend either extraperitoneally or into the peritoneum itself.

CHARACTER OF THE BLEEDING

The character of the bleeding may give some idea as to the cause of bleeding. When the bleeding is bright red and continuous in character, and the body of the uterus is firmly contracted, one must suspect laceration of the cervix or lower birth canal. Bleeding from lacerations is generally continuous and bright red in character, while bleeding from an atonic uterus is generally intermittent and there generally occurs the passage of large clots. However, pressure upon the uterus generally expels a large quantity of blood. Bleeding when associated with retained products, also may be of this character. However, it also may be bright red in character,bleeding coming from the area of the uterus where the placenta is partially detached. The character of the blood itself may change appreciably. It will be noted at the beginning of the hemorrhage, if the color of the blood is either bright red or dark red, that the blood clots readily. However, as the clotting constituents of the blood decrease, the blood becomes more watery, pale in color, and almost serious in character. When this situation is arrived at, it is impossible for the blood to clot properly, and consequently thrombosis of the sinuses does not occur. This situation is found particularly in cases of abruptio placenta where the blood is low in fibrinogen. It is necessary to appreciate that excessive bleeding presents a cycle of events which can be summarized by stating that first the blood flows freely because of some etiological factors described earlier and clots rather soon, but as the bleeding continues, the clotting ability of the blood changes, thus affecting the original cause. Therefore, this cycle of events continues until the patient becomes exsanguinated unless therapeutic measures are immediately instituted to break the cycle. Some authors, particularly Reid, have described the condition of the blood where there is a diminished amount of fibrinogen. This again is particularly associated with abruptio placenta. In this situation, bleeding from the uterus in general occurs and is very difficult to abate. Even repeated blood transfusions may not stem the blood flow when this condition exists. This can be detected by determining the amount of fibrinogen in the blood and by noting the character of the clot which forms in the test tube. If the clot withdraws rapidly, then there is a diminished amount of fibrinogen present in the blood. The treatment for this situation, of course, is to add fibrinogen to the general circulation.

PROGNOSIS

In modern obstetrics, no woman should die from postpartum hemorrhage. It is true that in every several thousand deliveries, a hemorrhage of 2000 cc. or even more may be encountered, but even so, before half of this blood is lost, the replacement blood should be running into the patient's arm. With large quantities of blood which are now available, it should be possible to save every bleeding patient, even though it may be necessary to remove the uterus. This demands a good blood bank where the blood is readily available, trained personnel, and most of all, prompt action.

TREATMENT

Preventive treatment of postpartum hemorrhage is of the greatest importance. The patient should be prepared for the ordeals of labor and the possibility of hemorrhage. This means that all patients should be educated in proper nutrition and that their general nutritional status be made as satisfactory as possible by proper intake of proteins, leafy vegetables, iron, and calcium. It may be necessary to build up the condition of the blood by transfusion if other methods have failed. Long labor should be avoided if possible, but if such complications are present, adequate rest and fluids should be given the patient to keep her in satisfactory balance. Rapid and forceful delivery should be avoided to prevent laceration and atony. Excessive use of drugs and anesthesia should not be used. I am convinced that with improved analgesia and anesthesia, that the instance of postpartum hemorrhage should be decreased. In Syracuse Memorial Hospital where 80 to 85 per cent of all cases are delivered under either caudal anesthesia, saddle block or local pudendal block, the incidence of postpartum hemorrhage has dropped to practically nil. There have been no maternal deaths from hemorrhage and in fact from any other obstetrical cause since 1946 and there have been a total of 12,163 deliveries during that time.

The third stage of labor should be properly conducted, allowing the placenta to separate spontaneously and to be carefully expressed. Forceful crede of the uterus should not be allowed, as this procedure traumatizes the uterus causing intramuscular hemorrhage. Expression of the placenta should not be attempted until after separation of the placenta has occurred. Separation generally takes place in a few minutes after delivery, particularly if the delivery of the child is conducted slowly. If general anesthesia has been used, 1 cc. of pituitrin can be given intramuscularly and this will stimulate the uterus to contract normally. This aids placental separation.

After separation has been noted, by watching the shape of the uterus change from discoid to globoid, the well-known Calkins' sign, manual expression of the placenta is formed. The uterus is then pulled up out of the pelvis, massaged gently on its anterior and posterior surface, kept hard and small. Ergotrate 1/320 gr. is given intravenously and repeated intramuscularly. Inspection of the placenta and membranes should be considered as an integral part of the third stage of labor. Missing portions should be searched for by inserting the hand into the uterus. Removal by finger curettage is then in order. Careful asepsis is necessary at all times.

ACTIVE TREATMENT

It must be remembered that first, last, and at all times to save blood. Bleeding from the episiotomy can be temporarily stemmed by pressure or by clamping and ligating the vessels. Bleeding from the uterus during the third stage of labor, while waiting for the placenta to be separated, can be controlled by pulling the uterus into the abdomen and gently massaging it on its anterior and posterior surface. This not only tends to control bleeding but also helps to create a normal separation of the placenta. If, however, the patient starts to bleed profusely before the placenta has completely separated, it may be indicated to insert the hand into the uterus manually to remove the remaining portion of the placenta from its attachment. It is good policy before this is attempted, that a needle be placed into the vein, and blood be drawn for cross-matching and blood obtained for transfusion so that it will be on hand if more hemorrhage occurs. Many times the administration of blood early will prevent the signs and symptoms of shock even in the face of moderate postpartum bleeding. If bleeding becomes more profuse than normal, or if it persists, it is mandatory that blood be made available while the local treatment is being instituted. This is the most important step in the treatment of postpartum hemorrhage.

All lacerations, both cervical and perineal, should be sutured immediately. Perineal lacerations are readily visible and should be repaired immediately. If the uterus is well contracted but bright red bleeding from the vagina is continuing, inspection of the cervix by placing two Sims' specula into the vagina, one anteriorly and one posteriorly, will demonstrate a cervical laceration. These tears should be sutured, being certain that the bleeding points are tied off. Bleeding above and within the cervix may be significant of a ruptured uterus and justifies the insertion of the hand into the lower segment for exploration. Rupture of the uterus demands immediate removal of the organ. Careful choice of anesthesia is necessary, local is generally the safest one to use.

Inspection of the placenta should be carefully performed, searching the edges of the placenta for broken vessels and missing cotyledons. If bleeding is occurring and a segment of the placenta is missing, it is generally safe and a good policy in a well regulated hospital to examine the interior of the uterus and remove the portion by digital curettage.

If the bleeding is due to atony of the uterus, several methods of control are available.

1. **The manual method:** The uterus is lifted carefully into the abdomen where it is held between the hands and massaged gently on its anterior and posterior surface so that contraction and retraction of its muscle fibers can go on. Ordinarily this will control the bleeding and cause the uterus to contract firmly. The uterus must be kept hard and small. The pulling of the uterus into the abdomen apparently cuts down the caliber of the vessels supplying this organ with blood, and therefore, creates some anemia of the muscle and causes it to contract more firmly. From time to time it is necessary to squeeze the body to be sure that there is no blood accumulating within its cavity. If this method fails, a second method can be adopted which consists of inserting the hand into the vagina and placing the fist to the anterior surface of the uterus and with the external hand, the fundus is pulled firmly to the other hand compressing the fundus against the cervix. This pressure can be maintained for some minutes or even hours and can control the contractility of the uterus very admirably.

2. **The effect of drugs:** During the attempts at manual control, another method of causing the uterus to contract is by the giving of oxytoxic drugs to the patient. These drugs affect markedly uterine motility. Their action is selective. They excite the smooth muscle of the uterus almost exclusively. These drugs ergotamine, ergonovine, or ergotoxine are derived from ergot. A second important oxytoxic drug is also derived from the posterior lobe of the pituitary and is known as pituitin or pitocin. Ergonovine or ergotrate can be given intravenously in 1/320 gr. dose and will cause the continuous contraction of the uterus within 45 seconds after the initial giving. If this drug is given intramuscularly, the reaction upon the uterus may be more sustained, but the immediate effect is somewhat delayed. Intravenous pitocin can also be used over a considerable period of time and is generally given by adding 1 cc. of pitocin to 1000 cc. of glucose and distilled water and is given at the rate of 30 drops per minute. The pitocin possesses less pressure action upon the vessels as a whole and does not disturb the blood pressure, but does have direct effect upon the uterine muscles. The use of intravenous pitocin causes the uterus to contract and relax at intervals, but keeps the tone of the uterus high at all times. In most cases of moderate postpartum hemorrhage, the bleeding can be controlled by either one of the manual methods and by the addition of the drugs which has just been mentioned.

3. However, in some cases, even all of these methods of therapy will be of no avail, the bleeding will continue, and it becomes necessary to try **more drastic methods of control.** Although many feel that packing of the uterus and the vagina is old fashioned and has no value, I still feel that in an occasional case that an intrauterine-vaginal pack of wet gauze will save many lives. The packing of the uterus is generally conducted by visualization of the cervix. A Sims' speculum is inserted anteriorly and posteriorly into the vagina and the cervix is grasped by cervical tenacula and pulled down to view. Then by direct vision 25 to 30 yards of moist gauze can be inserted into the fundus of the uterus and the body of the uterus can be firmly packed. It is generally necessary to hold the other hand upon the fundus of the uterus in order to direct the intrauterine placing of the gauze. The entire uterus, lower segment, vault of the vagina and vagina itself, must be tightly packed. Wet gauze is better to use than dry gauze thereby preventing the shrinkage of the pack that may occur as the dry gauze becomes saturated with blood.

In rare cases, all the measures described above to combat postpartum hemorrhage may fail and the question may arise as to the justification of the removal of the uterus. If the patient is in shock, such an operation may be the deciding factor in hastening the end. However, when bleeding has been persisting, a large quantity of blood has been given and is available, supervaginal hysterectomy or in some cases complete hysterectomy will prevent such deaths. In all cases of postpartum hemorrhage, it must be remembered that the treatment depends upon the replacement of blood, and it is necessary to replace more blood than has been lost, and in many cases may involve the giving of from two to three quarts of blood soon after delivery. In all cases of hemorrhage, measures to combat infection and anemia must be carried out specifically.

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The Personal Physician*

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EACH PATIENT who enters a doctor's office brings a personality as well as a disease. This personality—the human element of medical practice—is different from all others save in one characteristic. Every individual wants to consult his "personal physician." The patient will brook no interference with this intimate and possessive relationship which he desires between his doctor and himself.

It is an interesting commentary on trends in American medicine that this personal relationship is the one thing that has been neglected. Medical science has progressed with admirable rapidity in the past few decades. The public owes an increasing debt to medical research; and yet, the public has been vociferous in its statements that medical science does not fill the day-by-day needs of most people.

There can be no doubt that more than medical science is needed to make a doctor—at least in the eyes of the patient. The public has demanded the return of its personal physicians, which is, of course, no more than a demand for return of the family physician and his warm human understanding. By our overemphasis on pure medical science, both in teaching and in practice, we have failed to give the people the service which they desire. We have made medical scientists sometimes to the exclusion of making doctors.

In this article, let us examine briefly the duties of the personal physician. To begin with, we will presume that he must have a thorough grounding in the medical sciences. In addition, there are five things required of the personal physician that are of primary importance.

I. Understanding of interpersonal relationships. Tomorrow, there will be more abdominal pain caused by unsatisfactory interpersonal relationships than there will by unsatisfactory intraabdominal relationships. The personal physician must realize that this is true.

This realization is not at all easy. From the very beginning of his medical school days until his entry into practice, the physician meets with emphasis on the organic to the near exclusion of the functional problem He is taught to consider the patient as an isolated system of organs, each subject to certain pathology. He gains (and sometimes keeps)the idea that the irreducible unit of practice is a specific disease rather than a person. He cannot see that the relationship between these personal units can, and frequently does, produce friction which manifests itself as functional disease.

Fortunately, only an ignoramus can do the work of a family physician and not come to realize sooner or later, that the medical problems of people reflect what is going on outside the patient as well as what is going on inside. Experience, in many instances, makes up for deficiencies in teaching.

It is difficult for some highly specialized physicians to admit the predominant part played by interpersonal relationships. This is in no sense a criticism, for, by and large, these physicians do better than the author would under equivalent circumstances. When one sees the patient only occasionally and then for a specific complaint within the narrow confines of one specialty, it is difficult to appreciate a problem such as the one we are discussing, which must be stated in generalities.

The field of the personal physician presupposes a wide understanding of the relationships between people, an understanding that may not be gained readily from textbooks. Experience in dealing with people is the basic source from which such skill is drawn.

II. Psychology. The family physician must have an applicable knowledge of the common behavior patterns of individuals. It has been said that there exists no possibility of charting the exact behavior of a single individual but that the behavior of a mass of people is a mathematical certainty. It is certainly true that the behavior of the community is predictable within very narrow limits. It is a function of the good personal physician to know this and to integrate his patient with the predictable behavior patterns of the community.

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†From the University of Tennessee

While psychology may not be able to forecast the exact actions of an individual, it is still true that each person does fall in a general pattern. A shrewd judgment, made on the basis of past experience and accumulated knowledge, is a part of the practice of the personal physician.

One must admit at once that such an application is a function of all physicians, but it would seem that the personal or the family physician should be in best position to apply this judgment to the everyday problems of medicine.

III. Acquaintance. By the very nature of our compartmentalized specialty practice, intimate acquaintance between the patient and his physician is not probable. The patient has complained bitterly about this and he is right.

One of the most important diagnostic and therapeutic weapons at the command of the personal physician is this personal acquaintance with the patient. Over a period of several years, the family physician gains a knowledge of the patient that is more valuable than any briefly taken history. Both from the standpoint of physical and of psychologic status, information gained through this intimate knowledge of the patient's background can do much toward obviating the necessity for painstaking and time-consuming studies.

While it is difficult for a drug therapist to admit, I believe as much good can be done by the respect, friendship, and sympathetic understanding of the family physician as can be done by the drugs at our command. To satisfy the people whom we serve, there must be a return of the family doctor relationship. This presupposes an intimate acquaintance.

IV. Psychotherapy. Though he would probably be surprised at the term and possibly a little resentful, the old family physician was an expert psychotherapist. As a matter of fact, he seldom had much else to offer his patients other than relief of pain and psychotherapy.

Of the problems seen by the personal physician, over half will have a psychic aspect. Unless one be prepared, both by training and experience, to deal with these, then he cannot be a good family doctor. This does not necessarily mean that formal psychotherapy should be a part of the armamentarium of such physicians. Informal, common sense psychotherapy can and must be used constantly.

There is much misunderstanding in trying to define such work. To me, informal psychotherapy means the utilization of all aids (including drugs, interviews, placebos, and sympathetic understanding) to treat emotional turmoil. It does not connote minor Freudian interviews and like procedures. It is certainly true that the personal physician occupies the best position in medicine for such treatment to be useful.

V. Human understanding. Most important of all the attributes of the family physician is the warm, human understanding of the individual patient. It is difficult to draw a word picture of such an ephemeral characteristic. If you will permit a wild example: Upon perceiving a patient drowning in a river of disease, the average physician throws out a rope and calls encouragement. The physician with human understanding goes in after the patient and they make their way out together. This is weirdly corny but very, very true.

Many physicians seem slightly embarrassed about the emotional content of their relationship with their patients. From the patient's standpoint, it is the most important phase of medicine in most cases. It is certainly not to be avoided.

The personal physician is a very real demand of the public. We of the profession must not only acknowledge this demand, but take steps to satisfy it.

Love is about the only thing left that is not subject to depressions, recessions, taxes, and New Deal legislation,—Constance Foster

Of Thee We Sing*

Joseph S. Stewart, M. D.
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TWO SENTENCES from the proceedings of the medical college of Georgia serve as the theme of my address today:

"Those who receive the mantle of a rich and noble heritage are expected to perpetuate it.

"For those who wear such a mantle and give it no sustenance it becomes but an empty echo out of the past".

Mississippi is a state with a heritage. Yours is a heritage which few people can equal and none surpass. The history of your great state makes up a series of continuous episodes of astounding human interest. You have much to be proud of. You have much to live up to.

It is of fascinating interest to hear the names of Mississippi cities, rivers and counties, that are famous everywhere, and to realize that those names represent various Indian tribes occupied the territory before the advent of the white man.

The Natchez, the Choctaws, the Chickasaws, the Yazoos, the Pascagoulas, and the Biloxis! One can not help but note with interest the historical periods through which the people of Mississippi have lived and loved, fought and died. First the period of exploration, from 1540 to 1699. Second the period of French rule, from 1699 to 1763. Third the period of British rule, from 1763 to 1781. Fourth the period of Spanish rule, from 1781 to 1798. Fifth the Territorial period and sixth and last the period of statehood.

Among the trying and tragic experiences that must come to the people of any new country, perhaps the most tragic of all have come to the people of Mississippi during the period of statehood. You suffered the ravages of a war in which Americans fought against Americans. Your cities were visited by the flaming torch of the great General Sherman. You suffered the horrors of reconstruction. But you have come through it all to assume your rightful place as a great state in our federal union of states, the United States of America.

Leading agricultural state of the old South, Mississippi was, for a time at least, a state of two political parties. I beg you to remember this fact. The party of secession was organized in 1850 under the name of the Democratic States Rights Party. In November, 1850, the Union Party was organized. A great political campaign rocked the utmost recesses of the state. The precise question was, "Will Mississippi join South Carolina in the act of secession from the Union?" Well do you Mississippians remember that Quitman, the most rabid of the Resisters, was nominated over Jefferson Davis. Foote was chosen standard bearer of the Union Party. Remember that in the election of delegates that followed, the Union Party was victorious by 7000 votes. Quitman, chagrined and disappointed, resigned. Jefferson Davis was persuaded to give up his position as United States Senator, to take over leadership of his defeated party. Foote was elected governor. The convention which met right here in Jackson on November 10, 1851, resolved that the asserted right of secession was utterly unsanctioned by the Constitution!! Mark well that resolution. Mark well the date.

Just ten years later, when the ownership of slaves was in jeopardy, the people of Mississippi reversed themselves, when, on January 9, 1861, the resolution of Mr. Lucian Lamar was adopted and Mississippi joined her sister Southern states in secession.

Then came war and with it all of the stark tragedies of war, of defeat, of occupation, of reconstruction. Vicksburg fell and in that fall, the hopes of the Confederacy were dimmed, for as Lincoln said, "The father of waters rolled unvexed to the sea", and the Confederacy was split in twain.

But the war was not over. The city of Jackson was to fall and in the words of Sherman was to be left, "one mass of charred ruins". Nor even yet was war ended, for Shiloh was to come, then Chattanooga, Atlanta and the March to the Sea. Savannah, Columbia, Wilmington and Charleston were to suffer the heavy cross of capture and devastation. Only then came merciful surrender, Lee to Grant at Appomatox, April, 1865. The war was not yet over. Johnston and Sherman were to sit at a table with a bottle of bourbon between them to talk things over. Ralph McGill says that after two drinks apiece, Joe pushed the bottle over to Sherman and said, "Have another Bill!" "No", said Bill Sherman, "If I take another one, Joe, I might surrender to you".

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*Delivered before the joint annual meeting of the Auxiliary to the Mississippi State Medical Association and the State Medical Assiciation, Jackson, Mississippi, May 14, 1952.

The question now arises, was the war then over? May I ask if deep in your hearts you believe the war is over even now? May I ask if you, the people of Mississippi and Georgia and all the South, still live the hates and the tragedies of a war that ended eighty-seven years ago? May I ask if the one-party system of politics throughout the South is evidence of adding sustenance to a great heritage or is it but evidence of the lingering, festering wounds from a defeat of long ago?

It has been said, "A land without ruins is a land without memories; a land without memories is a land without liberty". Here in Jackson and throughout Mississippi there were ruins and now there are memories, poignant memories of forefathers who fought and lost a great war over the principle of Federal versus State Sovereignty. Here too there is liberty and the souls of men are free, for this is America, where, in the words of Lincoln, one of the greatest of all Americans, there exists government of the people, by the people, for the people.

This war of which we speak took 500,000 lives. One-half million American lives. But it took this massacre to settle, for all time, the principle of the sovereignty of the federal government over the individual states. Today we all rejoice that that problem was settled and settled as it was, by the will of God. But there is another problem in relation to the federal government that was not settled by that war, nor has it ever been settled. It is the problem of the growing power of the federal government. It is the question of how large and how powerful the federal government may become before, "Government of the people, for the people, by the people," is replaced by despotism in the form of, "Government of the people, by the bureaucrats, for the bureaucrats".

You may well ask what the history of Mississippi and the problems of government have to do with a meeting of a state medical association? I answer that the history of Mississippi, the history of each and every state and the history of our nation is our heritage and the problems of government must be our concern as citizens.

You and I are proud of the scientific achievements of American medicine. You and I are proud of the American doctor. You and I believe that medical education in the United States has no equal. But, ladies and gentlemen, do you sincerely believe the American doctor is doing his full part as a citizen? I ask: Do you believe that our medical schools are doing their full part in training students in the art of citizenship?

Have you, any of you, ever spoken to your students, or to the younger doctors, of responsibility to country? Have you taught the value of liberty and stressed the slender thread upon which it hangs? Have you considered the ever-present danger of despotism? Have you talked of the Constitution, of Jefferson or Lincoln?

We, the citizens of America, have a great heritage. God grant that we, the physicians of America, and our wives, do our part in perpetuating that heritage.

That is my fervent plea today.

I beg you to remember that, in the days of the Confederation, the greatest obstacle to the union of the colonies was the fear of giving power to the central government. For one hundred and sixty-nine years, from Jamestown to the Declaration of Independence, the colonies had been subjects of the British crown. But then came Concord, Lexington, the Declaration of Independence and the Revolutionary War. The surrender of Cornwallis was the end of British sovereignty—the beginning of American Liberty. With liberty came the problems of liberty, chief among them being sovereignty. Where did it lie? In the states or in the central government? The Articles of Confederation were an unsuccessful answer, for each state was to retain its own, "sovereignty, freedom and independence".

It did not take long for the colonists of the Confederation to see that, dangerous as it was, the federal government must be given more power. A uniform system of currency was a necessity. Authority to levy and collect taxes was a necessity. It must have been a hard blow to these patriots to realize that their newly won freedom must be given away, in part at least, to a central government. Knowing these men as we do, we could have been sure, even then, that the Constitution, which was soon to be fashioned, would protect the rights of the individual and limit the powers of government.

in a manner as forceful as possible for the mind of man to conjure.

The framers of the Constitution loved their liberty. The scars of the oppressor's heel were imprinted deeply in their souls and the surrender of Cornwallis was fresh in their memories. They had lived under oppression and tasted of liberty. They were not amateurs. They were students of Magna Carta, the First Charter of Virginia, the Petition of Right, and the Glorious Revolution in England which resulted in the first Bill of Rights. They were familiar with the works of John Locke, Baron de Montesquieu, Samuel Adams and Thomas Paine. No wonder Jefferson called them demi-gods. Small wonder that William Gladstone said of their labors, "—the most wonderful work ever struck off at a given time by the brain and purpose of man".

The Constitution is not a long document. Implementation was left to the Congress. Interpretation was of necessity left to the courts. Our government has kept pace with the changing times and that, paradoxically, is evidence of the strength of the Constitution and at the same time it is evidence of the dangers that may confront us. Interpretation of the Constitution is not only a judicial prerogative but one also of the Congress, the President and of custom and usage. As a result the unwritten features of our Constitution are many hundreds of times more lengthy than the Constitution itself.

The framers of the Constitution felt that they had successfully and forever limited, the power and size of the federal government, at the same time leaving the door open for future amendments and alterations to take care of the changing thoughts in the minds of men and the growth of the country. I doubt that they, any one of them, ever envisioned, in their wildest dreams, the power and the size of the federal government as it exists today. I doubt that any one of them could have foreseen the usurpation of power by the chief executives of the country, and yet none other than the great Democrat, Thomas Jefferson, was the first president to set the example, when he made the Louisiana Purchase without authority of the Congress, admitting at the time that he doubted his constitutional right to do so. Other presidents have gone even further in modifying and expanding the constitution. Lincoln, when confronted with the crisis of secession issued the proclamation of emancipation and increased the size of the Army and Navy, in order to save the Union. He believed that preservation of the Constitution was of little value if the Union was to be lost. Theodore Roosevelt took over the coal mines when, in the heart of winter, a great strike threatened the lives of millions of Americans. Franklin D. Roosevelt carried the trend of usurpation of power to a degree greater than any of his predecessors, despite restraint by the Supreme Court, which he attempted to ridicule by the appellation, "Nine old men". But now, within the month, the most flagrant usurpation of power ever used by any President in the history of the nation, has been taken by Harry Truman, when, with a sweep of his hand, he took over the entire steel industry of the country. Oh my countrymen, where was the crisis? What was the reason? Lincoln usurped his power to save the Union in order that the Constitution might live. Theodore Roosevelt used his to keep millions of Americans from freezing to death. Again I ask, what is the crisis now? What is the justification? How slender is the thread by which our liberty hangs?

Today we have become a government of bureaus. There is nothing wrong with bureaus, but, the ambitions of poor weak mortal man tends to make the bureaucrat a danger to liberty. The rapid growth in the number of federal employees and in the size of the annual payroll, during the past twenty years, demands the serious consideration of every thinking American citizen. In 1932 the total average federal employment was 621,580 and the annual payroll $1,059,138,000. Today the total average employment is two and a half million with an annual payroll of eight billion dollars. In other words, in twenty years federal employees have increased four hundred per cent and the federal payroll eight hundred per cent. Gentlemen, when will it end and where will it lead? I aver that there must be a point where government, by mere force of size and power, will become despotic and freedom will be lost and this, in spite of the Declaration of Independence and the Constitution of the United States of America. Again I ask you how far the present journey can safely go?

We not only fear the present size and power of government, we fear even more the political philosophy of some of our leaders today, leaders who preach the doctrine of ever-increasing size and power of the various bureaus and, mark me well, in the name of welfare and security.

We live today in the Era of the Mink Coat, the Deep Freeze, Reconstruction Finance Corporation influence and Internal Revenue deflections. We do not know what the cause is of this disgraceful era in American history. Perhaps it is the mushroom-like growth of government which makes control impossible; perhaps it is a moral degeneration of the citizens of the country; perhaps it is lack of leadership; perhaps it is the normal human result of a political party too powerful and too long in control. Whatever the cause, the result is nauseating!

A country is only as strong as its citizens. A country is only as moral as its citizens. Indeed a country is only as great as its citizens make it great. When the great mass of intelligent, thinking, people of a nation forget their duty to their country and their government, then that country is doomed. We have today the greatest country in the world and the American constitutional system of government has no peer. But, it is not written that this country will forever be great, nor is it certain that even our constitutional system can forever withstand the onslaughts of a political philosophy that would make all men mere wards of the central government.

The physicians of America and their wives are a small but well educated, intelligent, thinking group of worth-while citizens. To us there has been thrown a challenge and we, as a profession, have accepted the challenge. We have done well in fighting against an even larger central government; we have educated many to the dangers of socialism and despotic federal power. But we must do more. Every man of us must do his part, never forgetting that our country comes first, even before our profession. As Southerners we must seriously consider the great disadvantages to the nation and ourselves of a politically "Solid South", remembering that the political principles which are the heritage of all Americans far transcend in importance, loyalty to any political party or to any section of the country.

Ladies and gentlemen, in conclusion, may I say it is not for you or me to write a Declaration of Independence, nor to frame a Constitution. It is not for you or me to cross the Delaware nor to be at a Manassas or an Appomatox. It is not for you or me to be a Washington, a Jefferson, a Jackson or a Lincoln. But it is for you and me and all Americans to accept our heritage, given us by great Americans and great events. Yes we must accept that heritage, love it, appreciate it, work and give for it, that we may say, as did those who signed the Declaration of Independence, "with a firm reliance on the Protection of Divine Providence, we mutually pledge to each other our lives, our fortunes, and our Sacred Honor", that America maintain its greatness and that men shall be forever free. Then and only then shall we be able to stand before the men of all nations and sing,

"My country 'tis of thee
Sweet land of liberty
Of thee we sing".

ALCOHOL SHORTENS LIFE

"The drinker always runs the risk of having a shorter life," is the conclusion drawn from a study of current, scientific findings, released today by the American Business Men's Research Foundation.

"A study of alcoholic cases and longevity reported by the Ohio State Commission to study Chronic Alcoholism shows that only 52 per cent of all alcoholics live to the age of 50 and over, whereas 85 per cent of all residents live to 50 and older. At the age of 60 and above, the percentages are 21.5 per cent for the alcoholics and 69 per cent for all residents; and at 70 plus, 7.5 per cent and 45 per cent respectively.

"The most recent study of alcoholic habit cases, undertaken by the Lincoln National Life Insurance Company of Fort Wayne, Indiana, shows that 'the average mortality of the drinker was more than three times the mortality expected from a group of standard lives similarly distributed with respect to age and amounts of insurance.'

"Even the so-called 'moderate' drinkers who know when to stop drinking before intoxication overtakes them, subject themselves to the possibility of a shorter life," asserted the Foundation statement.

Endocrine Disorders Encountered in Private Practice*

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DISEASES AFFECTING the various endocrine glands, although uncommon, are not rare. The series herein reported, comprising 58 cases, provides an incidence of 1.5 per cent of consecutive patients personally examined over a 30-month period. (Table 1) It should be emphasized that instances of simple hypometabolism and of the female and male climacteric have not been included in this report. Their diagnosis is somewhat inexact and does not tend to strict scientific accuracy.

No effort will be made to report each case in detail. Rather the endocrinopathies will be discussed as groups of cases, with details being briefly presented only where pertinent illustration is indicated or in instances of unusual interest. This presentation, further, will deliberately be kept purely on a clinical plane with emphasis on diagnostic features.

DIABETES MELLITUS

As would be expected, diabetes mellitus was the most common endocrinopathy seen. The 42 patients ranged in age from 3 to 72 years. The diagnosis in most instances was made evident by the finding of glycosuria with fasting hyperglycemia. In such instances glucose tolerance tests were not performed, being unnecessary, since the diagnosis was already established, as well as potentially dangerous due to the possibility of precipitating diabetic acidosis. Where the diagnosis was in question, glucose tolerance tests were carried out. We have come to feel that the standard two-hour procedure provides more accurate results than the more simply performed Exton-Rose test. Recently, we have employed the blood sugar determination two hours after a breakfast high in carbohydrate as a screening method, with very satisfactory results.

The most severe cases were seen in the juvenile group. Only three true "brittle" diabetics were encountered with marked fluctuations in the insulin requirement. The elderly diabetics were of mild degree uniformly, the majority responding to diet and/or weight reduction. Various diabetic complications were present in these patients, including diabetic neuritis, endarteritis obliterans, "diabetes and diarrhea", carbuncle, retinopathy, and acidosis. Two patients in diabetic coma were also seen.

The physician should always keep in mind the fact that certain endocrine diseases may masquerade as diabetes mellitus. Unless this possibility is kept in mind, the diagnosis will be missed and the patient not fully benefited. Two such cases with hyperfunctioning adrenal cortices and diabetes will be discussed later. A third case illustrating the aggravating effect of hyperthyroidism on diabetes is herewith summarized: A 20-year-old white female complained of weakness, weight loss, hunger, thirst, polyuria, and increased nervous tension of three months' duration. She had no stare and no discernible thyroid hyperplasia. Glycosuria and hyperglycemia were found. While the patient's diabetes was being managed, it was noted that her pulse rate was constantly elevated, that her skin was moist, warm, and fine, and that she seemed to be stimulated. Three metabolism tests on consecutive days gave values of plus 36, plus 32, and plus 36.

The blood cholesterol was within normal limits. The patient was placed on six units of protamine zinc insulin daily with a high caloric diabetic diet. She was also given 150 mgm. of propylthiouracil daily and 10 drops of Lugol's solution three times daily. In two months' time the patient had gained 16 pounds in weight. She had no symptoms of any kind. Her metabolic rate was -6. The diabetes was well controlled. The Lugol's had to be discontinued because of iodinism. The patient returned after another three months. She had developed a definite goitre considered the result of thiouracil; she had lost 10 pounds in weight; the thyrotoxic symptoms had returned, the metabolic rate was plus 30; the diatetes was poorly controlled. Efforts to correct the situation by increasing the propylthiouracil to 300 mgm. per day were entirely ineffectual. The patient was given Lugol's solution for 12 days and a thyroidectomy was performed by Dr. J. W. Long. She recovered uneventfully and was dismissed without any form of therapy. Six weeks later both the metabolic rate and blood sugar were found to be normal. The patient has done well since.

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HYPERTHYROIDISM

The clinical picture of Graves' disease is so dramatic, characteristic and well known, that no discussion of the typical case shall be given here. Of the nine cases of thyroidal hyperfunction in this series, only 4 were of the Graves' disease type; two were seen in individuals in the third decade. Two appeared during the seventh decade. The remaining 5 individuals ranged between 62 and 73 years of age and had hyperfunctioning adenomas, one with malignancy. Heart disease was present in 4 patients, being manifest by cardiac dilatation, evidences of heart failure, and auricular fibrillation. One patient presented as a severe diarrhea, two as weight loss and fever of undetermined origin, and one as a psychosis.

The obscure complaints of the older patient with thyrotoxicosis with the paucity of leading physical findings make the diagnosis at times one of the most difficult in medicine, particularly where one is unable to have performed such tests as determination of the protein-bound iodine and radioiodine studies. The following case well illustrates the point:

A 64-year-old white female stated that for the past four months she had run fever with elevations up to 100°F. daily. During this time she had lost some 24 pounds in weight, and had become extremely weak. She had already been investigated several times, having had performed X-rays, cultures, agglutinations, stool studies, and blood studies repeatedly without a diagnosis being made. She had been found to be anemic, and had been given large amounts of iron, liver, folic acid, and vitamin B_{12}, without benefit. Also she had received repeated courses of antibiotics and quinine without altering the course of her disease. The patient was hospitalized for examination. Physically, the only remarkable points were an obvious pallor, a temperature of 100°, a pulse rate of 114, and a nodule in the left lobe of the thyroid, approximately 0.5 cm. in diameter. This nodule was quite firm, nontender, and moveable. It was observed that the pulse rate remained disproportionately elevated. A marked hypochromic anemia was found. Three metabolic rates, performed on successive days, were plus 20, plus 18, plus 18. The blood cholesterol was 94 mgm. per cent.

It was felt that the patient was suffering from a hyperfunctioning adenoma of the thyroid gland, and that this adenoma was malignant. At surgery, performed by Dr. Brister Ware, a grade 2 carcinoma with evidences of hyperfunction was found in the adenoma. No evidences of metastases were found. The patient has since been followed for 26 months. She has regained her weight, her blood count and blood cholesterol are normal, her fever has disappeared. She is apparently normal in every way.

Four of this group of patients have undergone surgery, with excellent results. The remaining five cases are being maintained on 150-300 mgm. propylthiouracil daily. One patient from the latter group developed an agranulocytosis from the drug, forcing discontinuation of this therapy.

We have been impressed that in the older patient with such complaints as weakness, weight loss, obscure anemia, low grade fever of undertermined origin, irritability, obscure cardiac failure, or unexplained auricular fibrillation, thyrotoxic disease should be seriously considered in the differential diagnosis. We have further become convinced that a careful, detailed palpation of the neck in the region of the thyroid can prove most rewarding in uncovering a clue to solve a diagnostic problem.

By the same token, it is necessary to emphasize that an elevated metabolism test alone does not constitute adequate grounds for establishing the diagnosis of hyperthyroidism. We have encountered many patients who have given such a diagnosis, some of whom have been subjected to useless surgery, whose complaints are those of nervous tension and tension along, but who, because of their inability to relax adequately, consume supernormal amounts of oxygen during the metabolism test, and hence are found with elevated readings. Until more accurate methods are at our disposal in this region, the diagnosis of thyroidal hyperfunction must rest primarily on clinical grounds and secondarily on the laboratory tests.

MYXEDEMA

The fullblown case of myxedema may be recognized simply by inspection of the patient. The bloated look, puffy eyes, sparse, dry hair, lateral thinning of the eyebrows, dry rough skin, hoarseness, and mental and physical retardation provide a diagnostic picture. The patients complain of constipation, cold intolerance, lack of energy and appetite. They often state that they either gain weight or are unable to lose weight. Menstrual abnormalities and decreased libido are common. Severe anemia, at times closely resembling pernicious anemia, may be present. The metabolic rate is below -35. The blood cholesterol is characteristically elevated. Cardiac involvement is not uncommon, the heart being considerably dilated; ofttimes a massive pericardial effusion is seen. The electrocardiogram is characterized by a sinus bradycardia, low voltage, and occasionally by the T wave changes of pericarditis.

Four cases of myxedema are included in this series. One patient had myxedema heart disease with pericardial effusion; the other three cases were uncomplicated. All were women between 58 and 64 years of age. Two had classical myxedema; two were relatively "young" cases who had not been ill sufficiently long to possess the typical physical attributes of the disorder.

The real problem is not the recognition of classical myxedema; it is diagnosing the disease during the months required for the development of the complete picture. This crucial period is difficult for the patient as well as the physician. The patient feels rundown, fatigued, and lethargic, yet the paucity of leading symptoms provides a diagnostic problem. The victim is ill, but simply cannot tell how or where he feels badly. Unless by careful questioning the examiner, keeping the disease in mind, brings out the story of cold intolerance, drying skin and hair, slowing of mental processes, constipation, and the like, the diagnosis will be missed.

One point which the author feels is most important is myxedema, and which is emphasized to a minimal degree in the literature is that of the muscular discomfort experienced. The victim may present aching, jelling, and stiffness of muscles as the primary complaint. Indeed, all four of the patients in this series listed these symptoms either primarily or very prominently in their story. Pain and disability may be surprisingly marked, to such an extent that the patient may find it difficult to perform everyday tasks. Because of this complaint, and due to the fact that myxedema is rarely suspected in the face of such a story, the victim is told that nothing can be found to account for the trouble. Much later, after the full picture has developed, the disease may be recognized. The author has had the embarrassing experience of observing, without recognizing, a case of myxedema with just such complaints, that is, progressive fibrositic aching, jelling, stiffness, and discomfort, with drying skin, constipation, cold intolerance, and rather severe emotional tension. Because of the patient's emphasis on the fibrositis, and the author's emphasis of the emotionalism, the diagnosis was not made until the patient absented herself from the office for three months. The diagnosis was obvious from her typical facies when she returned.

In our experience, the myxedematous fibrositis is the last of the athyreotic symptoms to clear completely. The disability persists for three months to one year after the initiation of thyroid extract in full doses. Interestingly, the more proximal muscles clear first; the lower extremities recover last.

A second important point is the presence of delayed ankle jerks in myxedema. When the Achilles tendon is tapped, the slow contraction and markedly delayed relaxation provide a dramatic and diagnostic physical finding. Myxedema may be accurately diagnosed from this single phenomenon. Each of the patients in this series presented characteristic reflexes.[2]

The following case is reported as a typical myxedemia:

A 58-year-old, postmenopausal white female stated that for four years she had noted progressive fatigue, somnolence, and cold intolerance. Her interest in life had declined. She wanted "just to sit". Her hair had become thin, coarse, and dry; her skin had dried; her voice had become hoarse. Her weight had increased some 20 pounds; her friends had remarked on how "puffy" she appeared. Her appetite was poor and she ate little, despite the weight gain. Progressive aching, jelling, and stiffness of all of her muscles had appeared. She was tense and irritable. She had been examined on numerous occasions by several doctors, all of whom had found her to be anemic, her anemia had failed to respond to a variety of hemopoetic preparations. She had been told variously that she had arthritis, anemia, change of life, and nervousness. During the past six months she had experienced progressive exertional dyspnea and finally mild orthopnea.

The patient was pale and bloated in appearance; the eyelids were puffy, the facies dull. She spoke slowly, with a hoarse voice. The blood pressure was 110/60, the pulse rate was 68, the temperature was 97°F. The skin was coarse and dry. A marked thickness was noted in the subcutaneous tissues. The other positive physical findings included free fluid in the right pleural cavity and a markedly dilated heart, which on fluoroscopy was found to pulsate minimally; it was felt that a large pericardial effusion was present. The liver edge was palpable two fingers below the right costal margin. Typical myxedematous ankle jerks were elicited.

The hemoglobin was 60 percent; the red cells numbered 2.9 million. A trace of albumin was present in the urine. An electrocardiogram revealed low voltage throughout, with slight T wave inversion in all precordial leads. No free acid was present in a gastric analysis. The blood cholesterol was 460 mgm. per cent. A basic metabolic rate was plus 60! Since it was obvious that the patient had not breathed properly and was not relaxed during the test a second metabolism rate was determined after 1 week of rest at home. This value was -36. (This in an excellent illustration of a fallacious laboratory examination. If taken at face value, the high reading would have ended in the patient being treated for hyperthyroidism).

The patient was started on dessicated thyroid, ½ grain daily for two weeks, then 1 grain daily. After one month, she had lost 14 pounds in weight following a marked diuresis. Her electrocardiogram was normal; no physical or fluoroscopic cardiac abnormalities were observed. She was alert, energetic, and happy. All symptoms and abnormal physical findings, including the abnormal reflexes, had disappeared, except for the fibrositis which, if anything, was worse. The metabolism rate was -24. The thyroid extract was increased to 2 grains daily.

Within three months, the metabolism rate was -10. The patient was entirely normal except for fibrositic discomfort limited entirely to her lower extremities. This gradually cleared over the next three months. The patient has been followed for 30 months. She is entirely symptom free and controlled on 2 grains of thyroid daily.

The patient was pale and bloated in appearance; the eyelids were puffy, the facies dull. She spoke slowly, with a hoarse voice. The blood pressure was 110/60, the pulse rate was 68, the temperature was 97°F. The skin was coarse and dry. A marked thickness was noted in the subcutaneous tissues. The other positive physical findings included free fluid in the right pleural cavity and a markedly dilated heart, which on fluroscopy was found to pulsate minimally; it was felt that a large pericardial effusion was present. The liver edge was palpable two fingers below the right costal margin. Typical mysedematous ankle jerks were elicited.

TESTICULAR AGENESIS (TURNER'S SYNDROME)

A case of Turner's syndrome in a 14 year old white male has been observed. This case has been insufficiently studied to be presented in detail, and will be the subject of a separate communication. Turner's syndrome, eponymically a disorder of females in which multiple congenital defects and dwarfism are associated with ovarian agenesis, has in recent years been recognized in males, and here ascribed to testicular agenesis.[3] The present patient was physically typical of the disorder, with dwarfism, premature senility, webbing of the neck, wide carrying angle of the arms, lack of genital development, tiny testes, absence of secondary sexual characteristics, and asthenia. The patient suffered from a congenital bladder neck obstruction with resultant decompensation of the bladder to the extent of 1800 ccs. of residual urine. Severe myopia and brittle diabetes completed the clinical picture. Neither endocrine assays nor testicular biopsy have as yet been performed. To our knowledge, this is the fifth case of Turner's syndrome in the male to be reported.

PHEOCHROMOCYTOMA

One instance of pheochromocytoma has been seen. Typically, this epinephrine-secreting tumor of the adrenal medulla produces episodes of paroxysmal hypertension with sweating, headache, tension, anxiety, hyperglycemia, hypermetabolism, weakness, pallor, dilated pupils, nausea, vomiting, and diarrhea. Occasionally, sustained hypertension may be present. No such complaints were listed by our patient, who was a normotensive 52-year-old white female. Her only complaint was constipation with painful defecation and rectal bleeding. A complete investigation was noncontributory except for proctoscopically demonstrated internal hemorrhoids of a severe degree. Hemorrhoidectomy was advised. The procedure was carried out uneventfully by an excellent proctologist, under cyclopropane anesthesia. The patient went into profound shock at the conclusion of the operation and expired despite desperate efforts by a battery of physicians to resuscitate her. At necropsy, the sole finding was a pheochromocytoma of the right adrenal gland, 2 cm. in diameter. It has been established that patients with pheochromocytoma do poorly under cyclopropane anesthesia due to the increased sensitivity to epinephrine induced by this anesthetic.[4]

ADRENAL CORTICAL HYPERPLASIA

It has been our good fortune to see three instances of disease produced by hyperplasia of the corticoadrenal glands. Two of these cases have been proven surgically. All have had endocrine assays performed, which have been diagnostic. All three patients were white females. One developed Cushing's syndrome, due primarily to excessive production of cortical "S" (or glucocorticoid) hormone; one presented the adrenogenital syndrome resulting from excessive "N" (or androgenic) hormone; the third case was a mixture of the two types, manifesting features of each, from secretion of excessive quantities of both "N" and "S" hormone. The two pure types contrast clearly; the mixed type lies morphologically between, blending into each of the others. By an odd coincidence, these three women live within 30 miles of one another.

CUSHING'S SYNDROME: The clinical picture of Cushing's syndrome has become more familiar within the past three years because of its development secondary to cortisone overdosage. Albright's thesis that the condition arises from an excessive production of adrenal glucocorticoid[5] has been amply confirmed in the light of more recent investigation.[6] The term Cushing's disease is eponymically restricted to the clinical state of hypercorticoidism associated with pituitary basophilism; Cushing's syndrome on the other hand, is the terminology applied to the clinical picture produced secondary to bilateral adrenal hyperplasia or to an adrenal adenoma or carcinoma. A discussion of the possible relationships between the pituitary changes and the pathological derangement of the adrenal is beyond the scope of a presentation of this type. Suffice it to say that the clinical picture of Cushing's syndrome is mediated through the final common pathway of a supernormal elaboration of "S" hormone, adrenal glucocorticoids which are concerned with glucogenesis. It is felt that there is likewise a hypersecretion, less marked, of mineralocorticoid of the DOCA type, and of androgenic or "N" hormone in these cases.[7]

The clinical features of fullblown Cushing's include adiposity which is marked in the face ("moon face"), trunk, and interscapular region ("buffalo hump"), with sparing of the extremities; flushed, plethoric facies; thin skin with ecchymosis and easy bruising, muscle atrophy and weakness, purple striae, particularly of the abdomen; poor wound healing; diabetes; hypertension; hirsutism; baldness; acne; amenorrhea of impotence; hypochloremia; hypokalemia; hypernatremia; alkalosis; polycythemia; osteoporosis, occasionally with bertebral compression fractures; polymorphonuclear leukocytosis with a relative lymphopenia, and absolute eosinophil counts of less than 30 per cm.

Endocrine assays performed on 24-hour urine collections reveal excessive amount of corticoids. 17 ketosteroids are usually normal with adrenal adenomas, moderately increased with adrenal hyperplasia, and markedly increased with adrenal carcinoma.[7]

Case reports A previously healthy 43-year-old white female had noted over a six-month period a gradual increase in weight of some 16 pounds. Her face became full and round and florid; her hair thinned considerably at the temples; a fine growth of hair appeared on her cheeks. She became so sensitive over heraltered appearance that she deliberately avoided people and became quite introspective and nervous. She became weak and listless. Her periods appeared irregularly and at delayed intervals. Her skin bruised easily, purpura appeared on all parts of her body. An incision made to remove a sebaceous cyst of the right forearm required weeks to heal. She was examined in a diagnostic center, where a "moderate hypertension" was found. The patient was advised to shave and see a psychiatrist in regard to her withdrawal from society. She later consulted her family physician, Dr. J. E. Wadlington, who found glycosuria and hyperglycemia. The patient was hospitalized. The author saw the patient in consultation shortly after admission. He was much more impressed by the patient's mental distress than by her physical appearance.

The patient had a full, round, flushed face. Posturally, there was a dorsal kyphosis with a slight "buffalo hump". Moderate obesity was present (she was 5'6½ inches tall and weighted 138 pounds); the fat was largely confined to the trunk and abdomen. The skin was fine and thin, containing many tiny ectatic vessels, purpuric areas, and ecchymoses. The scalp hair was thin; early alopecia was seen in the temples. A fine beard was present. A poorly healed surgical incision was present on the right forearm. The blood pressure was 180/90. Funduscopic examination revealed a Grade 1 hypertension. A complete physical examination was otherwise entirely normal.

The hemoglobin was 13 Gms. per cent. The red cells numbered 4.2 million, the white cells numbered 11,300 with 81 per cent neutrophils and 19 per cent lymphocytes. The bleeding, coagulation, and prothrombin times and the platelet count were normal.

The patient's diabetes, although not severe, was difficult adequately to control. She continued to complain so much about her altered appearance that it was suggested that a picture made prior to her illness be obtained. One glance at the portrait in contrast to the patient's appearance convinced the author that the lady had indeed changed greatly and it finally dawned on him that this was a case of Cushing's disease.

X-rays of the skull (made early the next morning) were normal. The Co_2 combining power was 56 vol. per cent. X-rays of the dorsal spine did not reveal any osteoporosis. The absolute eosinophil count was 180. An electrocardiogram revealed a slightly prolonged Q-T interval, suggestive of hypokalemia.

It was felt that the patient had sufficient physical evidences to justify a diagnosis of Cushing's disease, although not all of the classical findings were present. From the laboratory point of view, she had a leucocytosis with lymphopenia, but without the alkalosis, eosinopenia, polycythemia, osteoporosis, etc., of the fullblown case.

The impression was strengthened by a 24-hour urinary endocrine assay*. The 17 Ketosteroids were 26.6 mg. (normal, 5-10 mg. in females), the corticiods measured 1.87 mg. (normal, 0.3-08 mgm. in females).

The patient was referred to the Mayo Clinic, where the diagnosis of Cushing's disease was confirmed. At adrenal exploration, bilateral hyperplasia was found. One gland was ablated, the other was subtototally resected. The patient recovered after a stormy postoperative period. She is now 14 months postoperative (May, 1952). Her facial appearance has returned to normal; her obesity has disappeared; her skin no longer bruises; the hypertension and diabetes have disappeared; she is essentially normal in every way.

ADRENOGENITAL SYNDROME: Adrenal virilism may result from either cortical hyperplasia or, less commonly, from cortical neoplasm. Developing before birth, it produces pseudohermaphroditism in the female; postpartally it eventuates in virilism of the female. The disorder results from excessive adrenal androgenic hormone. The adolescent or adult female becomes masculinized and develops strong muscles, a deep voice, hirsutism, with beard and masculine hair distribution, an enlarged clitoris, and amenorrhea. Frequently these females have a markedly increased libido with frequent erections of the clitoris; homosexualism is not uncommon.

The treatment of adrenal virilism has been most disappointing in the past. Recently cortisone has been found to be remarkably beneficial, particularly in young females, through its inhibiting effect on the pituitary gland.[9] Long term follow-up studies have not yet been achieved. Experience has not sufficiently accumulated in regard to older patients with the syndrome to ascertain its efficacy in this group. Our case has shown no benefit from cortisone.

Case report: The patient herein described will be reported later in more detail. Only a summary of the more important features will be given at this time. A 26-year-old white female, referred by Dr. Charles Pruitt, Jr., stated that she had developed normally as a child. At the age of 12, she noted enlargement of the clitoris with growth of pubic hair. Her height did not increase after 12. At 13, she menstruated for 1 day. She had no other menses, despite estrogen administration, and cervical dilatation. The patient developed a deep voice and became quite muscular and stocky. At 16, she developed a male escutcheon, hirsutism, and hair on her arms. She began shaving at 18. At 22 she married Intercourse was performed normally. The patient manifested a strong libido. Hair appeared on the chest and abdomen at 24.

Physically the patient was stocky and muscular but not obese. She had considerable strength. Her voice was deep and masculine. Her scalp hair receded slightly at the temples. A moderately heavy beard and moustache was present. A heavy growth of hair was seen on the chest, arms, legs, and abdomen. A male escutcheon was noted. The face was slightly flushed. No acne was present. The blood pressure was 130/70. The breasts were small. The remainder of the physical exmination was not remarkable except for the pelvis. The clitoris was considerably enlarged. The vagina was normal. The cervix appeared small. The uterine corpus was infantile; no adnexal masses could be palpated.

Routine studies of the blood and urine were normal. The chest X-ray revealed no pathology. Intravenous pyelograms showed no evidence of adrenal neoplasm. A peculiar flat type of glucose tolerance curve was obtained on two occasions. (This will be elaborated in the later communication.) A 24-hour urine collection contained 27.5 mgm. 17 ketosteroids,

It was felt that the patient had a hyperfunctioning adrenal adenoma with adrenal virilism, despite the normal pyelogram. In an effort to exclude hyperplasia with further certainty, the patient was placed on 100 mgm. cortisone daily by mouth. (In cases of hyperplasia, there is a sharp decline in 17 KS values after cortisone). Endocrine assays were performed both before and after therapy. The 17 KS excretion was found to have significantly increased after 10 days of the drug. This was considered confirmatory evidence for adenoma.

The patient was explored by Dr. J. W. Long. Bilateral adrenal hyperplasia was found. Biopsy confirmed the surgical impression.

In view of the unexpected surgical findings and the lack of response to cortisone, further therapy with larger doses of cortisone are being considered.

MIXED TYPE (ACHARD-THIERS SYNDROME): Some cases of adrenal virilism have, in addition to androgenic excess, an increased production of glucocorticoids. This results in hypertension, diabetes, obesity, and, occasionally, purple striae being superimposed upon the picture of adrenogenital syndrome. These features, reminiscent of Cushing's disease, complete the characteristics of the Achard-Thiers Syndrome (diabetes of bearded women). With either adrenal tumor or hyperplasia, mixed androgenic and flucocorticoid syndromes are common. It is well recognized that in some instances it may be impossible to speak of a preponderance of one over the other.[10] The mixed syndrome which is here reported blends smoothly into Cushing's on the one hand and adrenal virilism on the other and represents such an instance.

Case report: A 37-year-old white female was referred for weight reduction by Dr. A. L. Miller. She had always been large for her age. Her voice had, since adolescence, been deep and masculine. Her muscular development had been considerable since her early teens; she became obese in her late teens. Scanty periods began at 16; she had oligomenorrhea, going as long as 3 years without menses. She had been found to be hypertensive at 17. A male escutcheon and heavy axillary hair appeared at 18. Hirsutism developed simultaneously; she began shaving at 21. The patient married at 34; libido was definitely below normal. A miscarriage at 3 months occurred at 36; there were no other pregnancies. She became considerably obese at 37. A sister was a diabetic. The patient had always suffered from bronchial asthma.

The patient was 5'11" tall. Her weight was 244 pounds. She had a girdle type of obesity with a "buffalo hump" and thin extremities. No striae or acne was noted. Her face was of the moon type. The scalp hair was thin and receding at the temples. mild facial hirsutism was present. A heavy growth of axillary hair was observed, as was a male escutcheon. Her voice was masculine. Her personality and muscular development were of the male type. Her blood pressure was 160/100. Funduscopic examination revealed a grade 1 hypertension. Her breasts were well developed. The remainder of the physical examination was not remarkable.. The clitoris was not hypertrophied. Pelvic examination revealed apparently normal organs.

The hemoglobin was 17 grams percent. The red cells numbered 5.76 million. The white cells numbered 6,950 with 26 lymphocytes. The urinalysis revealed 4 plus glycosuria, but was otherwise normal. The fasting blood sugar was 327 mgm. percent.

The urinary 17 ketosteroids were 12.2 mgm. in 24 hours, the corticoids 1.7 mgm.

The patient is at present undergoing further investigation to determine, if possible, whether she has hyperplasia or adrenal neoplasm. It is felt likely thathyperplasia is present. Her diabetes is well controlled on a 1000 calorie diabetic diet with 8 units of protamine zinc insulin daily.

PANHYPOPITUITARISM

An instance of Simmond's disease due to anterior pituitary failure has been encountered. This case, quite involved and complicated, has many unusual features. It is apparently unique in the medical literature; postmortem examination disclosed pituitary amyloidosis to be the etiological lesion. No report of amyloidosis of the pituitary gland can be found. Fortunately some rather extensive studies were obtained in this patient. The case will be the subject of a separate report; only a brief summary will be given here.

Case report: A 47-year-old white female referred by Dr. Ford Williams had three years before she was seen had a sudden cessation of menses; no hot flushes were experienced. She had lost her axillary and pubic hair; her scalp hair thinned. Her skin became yellowish. Marked cold intolerance developed. Her voice became hoarse, her eyelids puffy. She lost 50 pounds in weight and became extremely weak. She had crises of nausea, vomiting, diarrhea and prostration.

Salient physical points included senile, atrophic skin with areas of purpura and lesions later proved to be calcinosis circumscripta, absence of pigmentation of the mucous membranes, atrophy of the breast, hepatomegaly, severe generalized arteriosclerosis, and atrophy of the pelvic organs. Her blood pressure was 120/80.

Laboratory studies, in part, revealed a severe hypochromic anemia, lymphocytic leucocytosis, a positive Robinson-Kepler-Power water test, (failure to exhibit a prompt water diuresis), negative epinephrine test (failure of 0.5 cc. 1:1000 epinephrine to cause a significant decrease in the level of circulating eosinophils within 4 hours). Severe renal damage was disclosed; the patient was mildly uremic. Low values for pituitary gonadotrophins and urinary corticoids were found.

It was felt that the patient had pituitary failure of unknown causes. Neurological examination and skull x-rays were normal. There was nothing in her history to suggest post-partal hemorrhage or pituitary thrombosis. It was considered that the extensive arteriosclerosis might be etiologically responsible for both the pituitary and renal failure.

The patient was placed on end-organ substitution therapy with small doses of thyroid, estrogenic substance, testosterone, and cortisone. The hypopituitary symptoms improved remarkably and rapidly for three months. The calcinosis circumscripta virtually disappeared. However, during this period the renal impairment became progressively more severe. The patient died in uremic coma. Autopsy revealed extensive primary amyloidosis, renal amyloidosis and nephrocalcinosis, and amyloidosis of the pituitary gland.

The differential diagnosis included anorexia nervosa, Addison's disease, myxedema, and carcinomatosis. Each of these possibilities was satisfactorily excluded. A full discussion of the studies performed and of the differential diagnosis will be given in the later paper.

DISCUSSION

By keeping in mind the possibility of endocrine disease, the physician will be able to solve many otherwise baffling cases. We have attempted to point out that these disorders are not rare, although uncommon. A painstaking history and careful physical examination are mandatory. Accurate laboratory work is essential. Such effort is rewarded by increased diagnostic accuracy, benefit to the patient, and great personal satisfaction to the physician.

TABLE 1

TABULATION OF CASES

Simple hypometabolism, male and female climacteric not included)

1. DISEASE OF THE PANCREATIC ISLETS - 42 cases
    a. Diabetes mellitus - 39
    b. Diabetes mellitus aggravated by hyperthyroidism - 1
    c. Diabetes mellitus from adrenal hyperplasia - 2
2. DISEASES OF THE THYROID GLAND - 13 cases
    a. Hyperthyroidism - 9
        (1) Graves disease - 4
        (2) Hyperfunctioning adenoma - 4
        (3) Hyperfunctioning carcinoma - 1
    b. Myxedema - 4 cases
3. DISEASES OF THE MALE GONADS
    a. Testicular agenesis - 1 case
4. DISEASES OF THE ADRENAL GLANDS - 4 cases
    a. Adrenal medulla
        (1) pheochromocytoma - 1
    b. Adrenal cortex
        (1) Cushing's disease - 1
        (2) Adrenal virilism - 1
        (3) Achard-Thiers Syndrome - 1
5. DISEASES OF THE ANTERIOR PITUITARY 1 case
    a. Simmond's disease - 1

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Celebrating Fortieth Anniversary

All physicians in the Memphis area are invited to attend Baptist Memorial Hospital's open house July 17 honoring members of the medical profession, Dr. Duane M. Carr, chief of staff, has announced. Dr. George V. Brindley, Temple, Texas, a past president of the Southern Surgical Association, will be guest speaker at a banquet that evening.

Physicians who served internships or residencies at the hospital, regardless of their present location, are especially invited to return for this special event. A reunion luncheon is planned for July 17 as another feature of the week-long celebration of the hospital's 40th anniversary.

Colic in Infancy*

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THERE IS PROBABLY no other term referrable to the ailments of children which is more familiar and yet more poorly understood than "colic." Each one of us from practice or experience with our own families could describe the behavior of patients suffering from what we've called by this name. If, however, a critical attempt is made to define infantile colic and to designate its specific cause, a great deal of difficulty is encountered. Medical writing reveals diversity of opinion, much speculation, but little concrete evidence in support of individual hypotheses. In terms of clinical description, that of Brennemann[1] can hardly be improved upon: "The pain of colic is agonizing, it is not a mere discomfort. The baby screams with recurrent pain as he does with nothing else in infancy. He draws up his legs as if to make pressure on his abdomen, his whole body becomes suffused and red and he often sobs for a long time after the pain is relieved. It usually begins suddenly, often ends equally suddenly, sometimes only to begin again. It has a striking periodicity. This varies with individual babies, but has a marked tendency to recur daily in the late afternoon, or early evening, at about the same hour, and to last the same length of time with each baby." The author continues by stating that the symptoms of colic may or may not be relieved by food ingestion, enemata with expulsion of flatus, or abdominal pressure. Further, he states that frequently the pain disappears spontaneously.

It is the concensus that males are about twice as frequently affected as females: that initial difficulties usually appear between the second and third weeks of life; and that symptoms rarely persist more than six weeks. Levin has quoted an overall incidence of 1.24 percent in infants under six months of age. Statements that colic is primarily an affliction of the breast-fed, and on the contrary that it is almost exclusively associated with artificial feeding, can each be found in the literature. In the face of such apparent contradictions I was most interested in comparing the ideas of various pediatricians of my acquaintance. Again the range of opinion was wide, but a majority believed that infantile colic had been greatly over-emphasized and was a more convenient than real diagnosis. In answer to the question, "What do you think colic is?", replies varied from, "irritable crying", to "intusussception". Many felt that tension and fatigue states were of primary etiologic importance.

There is, then, no single satisfactory explanation; rather we are dealing with a symptom which may have arisen from any one of several causes. Since effective therapy will depend upon determination of the responsible factor or factors in a particular case, it becomes pertinent to discuss the relative importance of possible causes of colicky abdominal pain in infants.

There can be little question but that mechanical difficulties in the feeding of infants lead to abdominal distress of varying severity. Whether we are dealing with the perpetual hunger of a baby who is underfed and who cries out this protest and becomes markedly distended in consequence, or whether we are concerned rather with the infant who is overfed both from a quantitative and qualitative standpoint and suffers considerable flatulence, the end result may be the same. Even minor technical details such as the manner of cleaning nipples or the size and number of orifices in them can be crucial. The infant who is hungrily attempting to extract milk from a bottle when the nipple is plugged by caramelized milk will necessarily suck in liberal quantities of air. The same situation obtains if the nipple orifices are not large enough or sufficiently numerous, or as is sometimes the case when the nipple orifices are not made with a hot needle and consequently do not remain open. At the other extreme, the infant who is supplied milk through too fast a nipple often chokes, gags, and frequently compounds his difficulties by gulping inordinate amounts of air. Even though colic is not necessarily related to faulty feeding techniques, such as propping bottles so that an infant is feeding from a supine position and imbibing as much air as formula, it is important that these errors be carefully searched for and corrected in an infant who is experiencing colicky abdominal pain.

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Swallowed air, as long as it remains in the stomach can be removed by eructation, bubbling, burping, or whatever term one chooses to use. The facility with which individual babies are able to eructate gas from the stomach, and the attention paid to this important part of feeding technique by mothers vary widely. It would seem more than coincidence that difficulty in "bubbling" is rather frequently complained of by mothers of "colicky" babies. Perhaps we should even consider this mundane but convenient accomplishment as a learned device which is mastered with some difficulty and only after considerable practice by some individuals. When gas has passed the pyloric sphincter, however, the situation changes and the intestinal contents whether gaseous or solid must continue to distend the gut lumen for some time. It follows that an important part of examination of a "colicky infant" is auscultation of the abdomen. When numerous and exaggerated gas sounds are heard symptomatic relief through the use of atropine and atropine-like drugs which counteract parasympathetic hyperexcitability, should be tried.

The temptation to explain colic on the basis of an inherent imbalance of the autonomic nervous system is entirely understandable. It greatly simplifies the problem of diagnosis, and should furnish a rational basis for therapy. The term gastroenterospasm has been repeatedly applied to the condition but, to my knowledge, without objective supporting data. Certainly, in hypertrophic pyloric stenosis and pylorospasm extreme gastric peristalsis frequently can occur without colic. Since the symptom which concerns us is typically encountered in an otherwise thriving infant, and since spontaneous disappearance of the symptom can be expected in three to six weeks even in the absence of therapy, there has been limited opportunity for objective and critical studies in support of the various hypotheses. However, it is true that investigations of gastro-intestinal function in infants have shown that secretory function is essentially adequate soon after birth, but that motor function is relatively poor. If the pain of colic is related to spasm of the gastro-intestinal tract, the frequently reported experience that relief comes suddenly after passage of abundant flatus is hard to explain. Actually this sequence of events would fit better if distention of the bowel as the basic etiologic circumstance had been precipitately reduced by muscular action of the intestinal wall with passage of flatus. Also, if exaggerated motor function of the alimentary tract is responsible it seems strange that vomiting is so infrequently a part of the clinical picture. Achalasia in older individuals is classically associated with vomiting, but not often with cramping abdominal pain.

Constitutional hypertonicity, offered by some as the explanation of "colic" should be mentioned before leaving the subject of autonomic imbalances. It is postulated that paroxysmal episodes of exaggerated autonomic response result from startle stimuli. Accepting such an hypothesis, proponents recommend extreme gentleness and quiet in handling of affected infants. The effectiveness of this therapeutic approach, in many instances, cannot be denied. However, its success does not affirm or deny the reasoning upon which it was based.

Physicians caring for infants have been preoccupied with qualitative as well as quantitative aspects of feeding. Paradoxically, as our knowledge of infant nutrition increased the calculation and selection of adequate diets for our patients became greatly simplified. It became apparent that breast milk was of surprisingly constant composition, and rarely "disagreed with a baby"; that the majority of infants could be fed one type of artificial formula and prosper; and that within reasonable limits the composition of the formula was the last focus of attention in correcting most feeding difficulties. Stewart and others have shown that very young infants can be fed such foods as sardines in evidence of their wide food tolerance. Probably we as physicians have been too ready to attribute "colic" and other poorly defined alimentary complaints to food intolerance or allergy. The two alternatives, food intolerance and allergy have been used advisedly, since non-protein substances are not infrequently a cause of trouble. Granting that there may have been abuse of the diagnosis, as judged by the frequency with which it is made without adequate supporting information, nevertheless, the reality of these food incompatibilities is inescapable. They are mentioned here because colic is often a conspicuous symptom of gastrointestinal allergy, because colic is perhaps three times more frequent in eczematous than in normal babies, and because clinical management presents a very real challenge. Since cutaneous testing for sensitivity to constituents of the diet is of little usefulness, a therapeutic trial of elimination diets may be the most practical means of supporting the diagnosis. The examination of smears of rectal mucus for eosinophils before and after introduction of a suspected food is often a helpful diagnostic procedure, and in the case of milk sensitivity marked differences in intestinal patterning can be observed between a water-barium meal and a subsequent milk-barium meal.

The problem of which foods to incriminate is not difficult. From what has been said concerning the age range of greatest incidence, it follows that milk is the prime offender. The removal of even this basic food from the diet, because of the availability of several satisfactory milk substitutes, is relatively easy and safe. Personal preference largely determines whether other animal milks, protein hydrolysates, or perhaps soy bean preparations are to be tried. As initial efforts, some physicians try evaporated milk which has been heated 5-10 minutes for further denaturation, or instead offer evaporated goat's milk.

Infants over three months of age are probably receiving cereal in some form, usually are taking liberal amounts of orange juice, and may be eating a reasonably wide variety of complex foods. The single most valid argument for conservatism in adding new foods to the diet of a young infant is the likelihood of idiosyncracies, and gastro-intestinal allergies. Further, it has not been shown that the small infant needs a wide variety of foods, even though he may be able to handle them satisfactorily. In my opinion the incidence of gastro-intestinal difficulties, and more particularly colicky abdominal pain, could be further reduced if single, simple foods were introduced in occasional small amounts, and if physicians and parents alike were less anxious to give the baby too general a diet too early or too quickly. Finally the definite tendency for food sensitivities to change during infancy must be borne in mind when "colic" recurs in older infants.

Prominent also in the latter group of patients, intussusception must be considered as a cause of cramping abdominal pain. Even though it usually occurs between the fourth and tenth months of life (75 per cent of cases), the nature of the pain fits entirely Brennemann's description of "colic" except with regard to the type of periodicity, and a tendency to recur at the same time each day. The passage of small amounts of currant jelly stool, palpation of a transverse, sausage-shaped, intra-abdominal mass, or x-ray findings are particularly helpful in indicating the presence of intestinal obstruction from this cause.

Just as so-called "three-month colic" may simulate intestinal obstruction, just so cramping abdominal pain can result from mesenteric adenitis or enteritis. Association of abdominal pain with the frequent respiratory infections of infants and young children is as common as are evidences of central nervous system irritation in a slightly older age group. It does not follow however that any one of these possibilities explains the symptom in an otherwise thriving, happy baby who is apparently free of infection.

Thus far several possible causes of colicky pain in infants have been considered. Undoubtedly each can apply in specific cases, and on occasions several may be relevant. In other words, it is entirely possible that alimentary dysfunction resulting from food allergy is mediated by the autonomic nervous system, and further that hunger and mechanical feeding difficulties may co-exist to confound the picture. Realization that multiple causes play a part is most important for proper diagnostic and therapeutic perspective. It allows us to specify that we are not only dealing with a symptom instead of a disease, but that also that we are dealing with a symptom which arises from any one of many, or from a combination of several causes. The label "colic" therefore assumes decreasing importance, and in fact is little more than a catch-all for unknowns.

Turning for the moment from objective physical explanations of "colic", let us now consider the role of emotional and psychological factors. Shirley has said "an infant is an island of human potentiality surrounded by mother[2]", and that this mother-infant unit, "exists in a field of social and cultural forces." Because the perceptions and types of reaction of the newborn infant are primitive, we tend to forget that an interplay of personalities and environmental forces is operative at birth. To a great extent the baby is concerned with physical comforts such as being dry, being warm, and not being hungry. In addition, however, he is able to appreciate and hence strive for pleasurable experiences. He derives pleasure from being cuddled and rocked, or even from being snugly held during feedings. The aggregate of his pleasant experiences adds up to feelings of security. Denial of his wants leads to the sole emotional expression of which he is master, namely crying. To complete the cycle and relate these thoughts to the previous discussion crying can easily lead to air swallowing, flatulence, distention and abdominal discomfort.

A most interesting study was performed by Levin et al with respect to "colic". These workers determined the frequency with which the diagnosis could be made from nurses notes in a nursery for foundlings. Over a three-year period among 645 infants, eight examples of colic were encountered. Although the criteria for diagnosis were adequately selected, nevertheless one may question whether the relatively impersonal atmosphere of a nursery is conducive to making the diagnosis in any but most obvious cases. Rather, I would prefer the view that the system of selection used, screened a considerable group of patients who might have been incorrectly classified as having colic. By erring in the direction of under- rather than over-treatment, the best interests of these babies are served.

It is interesting that senior practitioners of pediatrics who frequently saw "colic" in years past, are convinced that it is becoming far less common. One is tempted to speculate that this changing incidence parallels an increasing knowledge of infancy and its needs, not only from a physical, but also from an emotional standpoint. An alternative, but interesting hypothesis should also be mentioned, namely that the greater frequency of "colic" in years past might be related to the presence of impurities or degradation products in milk. Such an explanation would apply primarily to artificially fed infants, and therefore does not fit the facts. In any event, Aldrich and others deserve great credit for focusing attention on the baby as a whole, rather than, for example, on its alimentary tract alone. Demand feeding schedules and encouragement to mothers to comfort crying infants are concrete examples of the new approach, as contrasted to rigid four-hourly feedings, and letting the baby "cry it out" as was frequently recommended in the past. Few of us will subscribe any longer to the idea that babies are voice boxes with stomachs attached.

The avoidance of unfavorable emotional and psychological situations should begin long before the infant is born. Through office interviews, suggested reading, classes for expectant parents, and similar devices, the physician is able to do a great deal towards establishing a wholesome environment for his future patient. His efforts aid greatly in minimizing anxieties and thereby allowing the young mother to enjoy and feel confident in the management of her baby. Also, it behooves the physician to know the personalities and problems of parents as well as possible, and to gear the advice he gives accordingly. For example, an insecure, rigid, mother who receives a brief and inadequate explanation of what a demand feeding schedule is, may feed her infant every time it cries or otherwise seems to indicate hunger. Feeding difficulties with excessive crying, if not "colic" itself is an almost inevitable consequence. Similarly, the overzealous efforts of the physician may, in effect, force a mother to breast-feed her baby when this is not her desire, or is opposed by other members of the family. The resulting tensions are usually reflected not only by a tense, dissatisfied mother, whose feelings are quite certainly conveyed to her infant, but also by reduction of breast milk production, exaggeration of hunger pains, and the appearance of mechanical feeding difficulties. At times the severity or even the occurrence of "colic" will depend upon the person caring for and feeding the infant. Often a grandmother with a wealth of experience and a relaxed, confident manner can effect great improvement in a colicky baby. It must not be forgotten, however, that the reverse also may be true. An overbearing, imperious grandmother, or nurse, may capitalize on the insecurity of an inexperienced mother and assume autocratic powers in the household. In such circumstances a strong stand by the doctor in support of the parent is indicated, and greatly appreciated.

Feeding periods should be enjoyable, restful experiences for mother and baby, whether breast feeding or artificial formula is being offered. The mother should be encouraged to exploit feeding time as an opportunity to sit down in a comfortable chair in a quiet part of the house and rest as the infant eats. Not only is the procedure then more emotionally satisfying to the baby, but by unhurried and relaxed feeding practices many troublesome feeding difficulties—beside just colic—are avoided.

In closing I should like to emphasize that "colic" is not an entity, but merely a symptom; that whether it be caused by a technical error in feeding, gastro-intestinal allergy, parasympathetic hyperirritability, or emotional stress, its successful treatment will depend upon a conscientious search for the specific cause or causes, rather than upon the empiric trial of various remedies; and finally that since, in so many instances, it is associated with emotional stress and anxiety we are well advised to make full use of such tools as prenatal education, as well as psychological support to the parents of a newborn infant in dealing with feelings of insecurity and anxiety.

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The Physiology of Kidney Disease*

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THE MODERN treatment of kidney disease is very highly dependent on a knowledge of the appropriate pathological physiology. Among the modern pharmaceutical preparations are many different types of diuretics, each one acting differently on the kidney, and the modern use of drugs such as cortisone, ACTH, and pituitary hormone make it essential that the physiology of the kidney be understood. Finally, the recent introduction of the artificial kidney and of peritoneal lavage makes it even further essential that the physician understand the function of the kidney both normally and in disease before attempting to apply these procedures. In the present discussion the normal physiology of the kidney will be reviewed briefly, and later it will be shown how this normal physiology varies in various types of kidney disease.

A. **Physiological architecture of the kidney.** The physiological unit of the kidney is the so-called "malpighian corpuscle", commonly known as the "nephron", and each kidney contains approximately one million nephrons, making a total of two million nephrons in both kidneys. Each nephron operates as an individual unit and entirely independent of the other nephrons. The nephron itself is composed of the glomerulus, Bowman's capsule, the proximal tubule, the loop of Henle, and, finally, the distal tubule. Blood enters the capillary blood vessels of the glomerulus and approximately one-fifth of the plasma filters through the glomerulus into Bowman's capsule forming the so-called glomerular filtrate which is almost exactly the same as plasma except that there are no blood cells and no proteins in this filtrate. This glomerular filtrate then passes into the proximal tubule where approximately 80 per cent of the fluid and all of the glucose is reabsorbed. The remaining glomerular filtrate which has not been reabsorbed in the proximal tubule passes into the loop of Henle and thence through the distal tubule where almost all of the remaining fluid is reabsorbed, and the electrolyte concentration and pH of the remaining glomerular filtrate is properly adjusted so that the body reabsorbs those electrolytes and crystalloids which are needed while casting off into the urine those electrolytes and crystalloids which are already in excess in the body. As the glomerular filtrate passes through the tubules, very little of the non-protein nitrogens are reabsorbed even though a total of approximately 99.4 per cent of all the water which filters through the glomerulus finally reenters the blood stream by way of the capillaries surrounding the tubules. Thus it can be seen that the non-protein nitrogens, which are essentially waste products from the body, pass into the urine in large quantities while water and the electrolytes which are needed by the body are retained. Indeed, this is the principal function of the kidney.

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B. **Pressure relationships in the nephron and their effect on the formation of urine** Blood passing from the renal artery to the glomerulus must first traverse the afferent arteriole which is lined with a strong muscular coat. Then after the blood leaves the glomerulus, it must pass through the efferent arteriole before it enters the capillaries surrounding the nephron tubules. The afferent and efferent arterioles have tremendous control over the formation of urine. Ordinarily, the pressure of blood in the capillaries of the glomerulus is approximately 75 mm. Hg., but, should the afferent arteriole dilate or constrict, the pressure in the glomerulus will increase or decrease accordingly. There are two major factors which control the amount of plasma which will filter through the glomerular membrane. First is the glomerular pressure and second is the colloid osmotic pressure of the plasma. The greater the glomerular pressure, the greater will be the quantity of glomerular filtrate formed. On the other hand, the greater the colloid osmotic pressure produced by the protein of the plasma, the less will be the quantity of glomerular filtrate formed. Consequently, changes in the diameter of the afferent arteriole causes a tremendous difference in the quantity of glomerular filtrate formed and also in the final quantity of urine that is formed. Changes in the diameter of the efferent arteriole can also affect the rate of blood flow through the glomerulus and thus affect the pressure in the glomerulus to some extent, but the control over glomerular filtrate formation is slight compared to that exercised by the afferent arteriole.

C. **Pituitary regulation of urinary output.** In order to maintain a relatively constant concentration of electrolytes in the blood stream and in the body tissue fluids, a special mechanism for regulating the dilution of the urine has been vested in the posterior pituitary gland. Whenever the body fluids become too concentrated with electrolytes, this affects special ganglionic cells located in the supra-optic nuclei of the hypothalamus and known as osmoreceptors. The concentrated tissue fluids cause these osmoreceptors to send numerous impulses down the pituitary stalk to the posterior pituitary gland where the pituicytes secrete the posterior pituitary hormone. One of the major functions of the posterior pituitary hormone, if not the major one, is its so-called anti-diuretic action. This hormone has a direct effect on the distal tubules of the kidney to cause greater than normal reabsorption of water while limiting the quantity of electrolyte reabsorption. Consequently, the production of large quantities of this hormone will allow the excretion of electrolytes while water is retained. Thus the originally concentrated body fluids soon become diluted. On the other hand, whenever the body fluids become too dilute, the osmoreceptors cease activity, the posterior pituitary gland ceases the production of posterior pituitary hormone, and the kidneys excrete large quantities of water, consequently causing the body fluids to become more concentrated.

D. **Adrenocortical regulation of electrolytes.** Hormones secreted by the adrenal cortex cause greater reabsorption of sodium and chloride than occurs normally in the distal tubules of the kidney while at the same time causing greater excretion of potassium. Therefore, whenever these hormones are deficient, the body will become depleted of sodium and chloride and will have an excess of potassium. On the other hand, whenever a tumor of the adrenal cortex develops, the body becomes overly saturated with sodium chloride while becoming depleted in potassium. Therefore, it is obvious that the adrenocortical hormones are essential for regulating proper balance of certain electrolytes—particularly the balance between sodium and potassium.

Exactly what regulates the adrenal cortex itself is not known; however, it is believed that the adrenocortical cells are controlled mainly by adrenocorticotropic hormone or hormones from the anterior pituitary gland. It is reasonable to believe that either in conjunction with the pituitary gland or by some direct action on the adrenal cells themselves, the potassium-sodium ratio of the body has the ability to regulate the output of the adrenocortical hormones which in turn regulate electrolyte balance.

In the recent use of adrenocortical hormones such as cortisone the undesirable side effect of sodium retention frequently occurs. Also, sodium retention occurs in heart failure, when patients have adrenocortical tumors, and frequently during pregnancy mainly as a result of excessive progesterone production. When this excessive sodium is retained, it causes concentrated body fluids and these concentrated body fluids in turn undoubtedly act on the osmoreceptors of the hypothalamus to cause the simultaneous retention of large quantities of water. Therefore, it can be seen that the retention of sodium causes an obligatory retention of water, and in many cases of sodium retention edema it is necessary to restrict only the sodium intake and not restrict the water intake at all.

E. **Intracapsular pressure regulation of urine output.** Whenever the body tends to form edema throughout the tissue spaces, this causes edema also within the kidney structure itself. The kidney has a very strong capsule which prevents marked swelling. Consequently, any edema formation within the kidney increases the pressure within this capsule. It has been found that when this pressure is greatly increased, less fluid will be reabsorbed from the tubules back into the capillaries. Consequently, a larger proportion of the glomerular filtrate will pass into the urine rather than being reabsorbed. Though this mechanism is poorly understood at present, this appears to be one of the major means by which the kidney regulates the total quantity of fluid that is momentarily present in the body, and it appears to be the means by which the kidney prevents the formation of edema under ordinary circumstances.

F. **Glucose spillage in diabetes.** It was noted above that after the glomerular filtrate is formed, essentially all of the glucose in the glomerular filtrate is reabsorbed back into the blood stream through the walls of the proximal tubules. It is found that these tubules are capable of reabsorbing approximately 240 milligrams of glucose per minute in the normal individual. Therefore, there are three different abnormalities which can cause the spillage of glucose into the urine. First, whenever the blood sugar level is very high, a tremendous quantity of glucose enters the tubules, and the tubules cannot reabsorb all the glucose which passes through the glomerular membrane. Therefore, in diabetes mellitus when the glucose level of the blood stream rises above approximately 180 milligrams per cent, glucose will be found in the urine. Secondly, during periods of extreme afferent arteriolar dilatation the pressure in the glomerulus may be extremely high, and this in turn may cause much greater formation of glomerular filtrate than normally. Thus, in this instance also, the proximal tubules may be overloaded for their normal capacity to reabsorb glucose, and some of it will spill into the urine. This can occur even in a normal person and does occur frequently in periods of excitement and other types of stress. Thirdly, the abnormality may not be in the blood sugar at all nor in the formation of large quantities of glomerular filtrate, for in an occasional individual the proximal tubules themselves may be able to reabsorb only 50 or 100 or 150 milligrams of glucose per minute. Therefore, these kidneys cannot reabsorb even the normal quantity of glucose that passes through the glomerular membrane and some of the glucose must spill into the urine, constituting the syndrome known as "renal glycosuria". These latter two conditions cause a considerable problem in some instances in the differential diagnosis of diabetes mellitus.

G. **The methods of diuresis by drugs.** It has been noted above that afferent arteriolar dilatation causes a high glomerular pressure and the formation of large quantities of glomerular filtrate. Drugs which cause this type of diuresis are the xanthrines and alcohol. However, diuresis caused in this manner cannot increase the flow of urine more than two to four times. When extreme diuresis is needed, a second type of drug must be used such as the mercurial diuretics.

The mercurials act on the resorptive membranes of the tubules to cause mild precipitation of the proteins in the cellular cytoplasm. As a result, much less of the glomerular filtrate is reabsorbed by the tubules, and the amount of urine which finally passes into the bladder may be as great as 10 to 15 times that normally occurring.

Thirdly, whenever electrolytes or crystalloids in large quantities pass through the glomerular membrane into the tubules, and these particular substances cannot be reabsorbed by the tubules easily, they carry large quantities of water into the bladder along with them. For instance, in diabetes mellitus, when the glucose is not totally reabsorbed, the remaining glucose exerts so much crystalloidal osmotic pressure that the distal tubules cannot reabsorb the normal quantity of water. Consequently, the term "diabetes", meaning excessive flow of urine, was evolved to describe this condition. Another type of crystalloidal osmotic pressure diuretic is sucrose which is frequently used in large quantities to cause extreme diuresis.

Fourthly, it is found that any drug which causes the urine to become highly acid or highly alkaline will cause less reabsorption of water by the distal tubules. An example of this in particular is ammonium chloride which is a strong acidifying agent.

Finally, any time that the body becomes excessively loaded with fluids, there will be a diuresis. This, obviously, occurs after a person drinks large quantities of water. Such diuresis as this, obviously, cannot occur in a kidney that is shut down, but in the normal individual water itself must be considered a diuretic.

H. **Acute glomerular nephritis.** In acute glomerular nephritis the glomerular membrane is the particular object of destruction. This results, usually, secondary to some acute infection elsewhere in the body, particularly infections resulting from streptococci, but not necessarily so. The mechanism, though considered to be the result of an abnormal antigen-antibody reaction and frequently called one of the "collagen" diseases, is so poorly understood that discussion of this is not warranted at the present time. From a physiological point of view, the important pathology of acute glomerular nephritis is, first, many of the glomeruli are completely plugged; second, many of the glomeruli are so edematous that very little glomerular filtrate can be formed; third, those glomeruli which are functional have such large pores that proteins and at times red blood cells leak into the glomerular filtrate. Occasionally, there is also moderate degeneration of the tubular epithelium. These changes in the nephron, obviously, cause scanty formation of urine, and that urine which is formed may contain large quantities of proteins and red blood cells, this picture being pathognomonic of acute glomerular nephritis. In most patients the acute phase of glomerular nephritis recedes in two to three weeks, and the glomerular membranes may return entirely to normal, but more frequently there will be permanent destruction of some of the glomeruli.

I. **The effects of nephron destruction by chronic glomerular nephritis, pyelonephritis, hydronephrosis, polycystic kidney disease, and arteriosclerotic kidney disease.** Ordinarily, only a small proportion of the two million nephrons in the kidneys are actually needed to perform the function of the kidney. Therefore, a tremendous number of nephrons can be destroyed before kidney disease becomes obvious. The various tests for kidney function are hardly altered by the removal of one entire kidney, and the first alterations are usually apparent only when 25 per cent of the original kidney mass remains. However, when the number of nephrons is reduced below this, then, in an effort to continue the normal functions of the kidney, each one of the remaining nephrons works all the time at essentially full capacity. The blood pressure is likely to rise, and there probably exists arteriolar dilatation so that blood flows into the glomerulus at high pressure. Consequently, a greater than normal quantity of glomerular filtrate probably is formed in each nephron. This glomerular filtrate passes through the tubules at an extremely rapid rate, and the normal processes of reabsorption are extremely limited by this rapidity of movement and probably also by increased intracapsular pressure. Therefore, since very little reabsorption of various elements takes place as this glomerular filtrate passes through the tubules, the specific gravity of the urine will be almost exactly the same as the specific gravity of plasma less its proteins—that is, approximately 1.010. Furthermore, even though an individual drinks a large quantity of water or goes without fluid for long periods of time, this specific gravity will remain approximately constant. Thus it can be seen that concentration tests constitute an excellent means of determining the total quantity of kidney destruction.

Obviously, when the nephrons are already working as hard as they can and progressive destruction continues, the necessary excretory products soon cannot leave the blood stream. Therefore, the final major consequence of nephron destruction is an accumulation of abnormal quantities of end products of metabolism, particularly the non-protein nitrogens, in the body fluids.

J. **Lower nephron nephrosis.** A number of different types of poisonous agents such as mercury, lead, and uranium frequently destroy or partially destroy the tubules of the nephron. It was noted above that mercury, when used in small quantities, is an excellent diuretic. Also, in mild poisoning by the other heavy metals, only a diuresis occurs. However, as the quantity of these agents increases, the cytoplasm of the tubular cells not only becomes slightly precipitated, but the cells are actually destroyed. Such destruction plugs the tubules and thereafter ends the useful life of the nephron, though occasionally the damage is slight enough that is can be repaired during the ensuing two or three weeks.

Lower nephron nephrosis also occurs following transfusion reactions due to the plugging of the tubules by hemoglobin. Finally, it was found during the last war that patients remaining in shock for long periods of time frequently develop lower nephron nephrosis due to ischemia of the kidney during shock. In other words, prolonged ischemia actually causes destruction or partial destruction of the kidney tubules.

K. **Lipoid nephrosis.** A few small children develop a disease of lipoid metabolism which causes very intense effects on the kidney. The blood cholesterol level may be three or more times normal, and the glomerular membrane becomes quite permeable to proteins but usually not permeable to red blood cells. Also, lipoids aggregate in the tubular epithelium so that poor reabsorption of fluid occurs. Consequently, large quantities of glomerular filtrate pass on through the tubules into the urine carrying with it a high percentage of protein. Therefore, in addition to the lipoid metabolic difficulties the patient becomes depleted of proteins, the blood albumin may fall to one-third to one-half normal, and this in turn lowers the colloid osmotic pressure of the plasma to such an extent that edema and ascites become extremely severe. Even though the effects of this disease on the kidney are well known, the basic underlying abnormality of lipoid metabolism is still a mystery, and the treatment of this disease at present consists mainly in replacement therapy with large quantities of protein. One-half or more of these children never recover; whereas, a few of them may become completely well.

L. **Acute kidney shutdown.** When the kidney suddenly stops functioning for any cause whether it be acute glomerular nephritis, lower nephron nephrosis, or otherwise, one finds that the end products of metabolism begin increasing rapidly in the body fluids. The elements of most importance in this regard are the non-protein nitrogens (urea, uric acid, creatinine, etc.), phenols, phosphates, sulfates, chlorides, and sodium. Also, should the patient continue to drink large quantities of water, this also would be retained in his body and consequently cause extreme edema. In general, the metabolic waste products are quite acidotic in nature so that the patient begins to suffer the symptoms of acidosis. These consist, first, of extremely rapid breathing, which is an attempt of the body to readjust the acid base balance by blowing off carbon dioxide, and, secondly, of mental depression culminating in the final state known as uremic coma. It should be noted particularly that it is not urea and the other non-protein nitrogens which cause this coma, but instead it is probably the acidosis.

M. **The artificial kidney and peritoneal lavage.** Recently the artificial kidney has been introduced as a means of supplanting kidney function during periods of acute shutdown. This apparatus consists of a long, thin, plastic tube connected to an artery and a vein so that blood will pass through the tube which is immersed in a bath of dialyzing fulid. The solutes in the dialyzing bath are adjusted so that excess quantities of sulfate, phosphate, and the non-protein nitrogenous products will pass from the blood into the dialyzing bath while such elements as sodium, potassium, calcium, magnesium, chloride, glucose, etc., will remain in the blood stream at normal concentration. These artificial kidneys necessitate heparinization of the patient while they are being employed, and they can be used only by surgical cannulation of an artery which causes subsequent destruction of that particular artery. Also, the apparatus can be used only about four hours out of every two to four days. Therefore, its application seems to be extremely limited.

On the other hand, peritoneal lavage, when used correctly, has proved to be far more satisfactory in dogs than has the artificial kidney. The older method of performing peritoneal lavage was to inject the lavaging fluid into the abdominal cavity through one trocar at a continuous rate while this flowed out through another trocar. On the other hand, peritoneal lavage by daily injection with a needle of a certain quantity of lavaging fluid into the abdominal cavity and then removing this fluid approximately two hours later has proved to be very satisfactory experimentally. Dogs have been kept alive without kidneys for up to 30 days by use of the artificial kidney and have been kept alive for approximately 100 days by use of peritoneal lavage. The lavaging fluid must contain appropriately adjusted quantities of sodium, potassium, calcium, magnesium, chloride, bicarbonate, and glucose as was noted above to be true also for the bath surrounding the dialyzing membrane of the artificial kidney. Also, this lavaging fluid contains no non-protein nitrogens nor any sulfate or phosphates.

SUMMARY

In the present discussion, the physiology of the normal kidney has been reviewed briefly, and the physiological variations which occur in various diseases have been discussed separately. The purpose of this presentation has been to give the clinician a functional basis for the understanding of different types of kidney diseases and, secondly, a basic knowledge that is needed for the intelligent treatment of kidney ailments.

Rupture of the Colon from Air Insufflation, Death[†]

Leslie V. Rush, M. D.* and J. A. Lauderdale, M. D.**
Meridian, Miss.

On May 14, 1951, at 7:30 p.m. a four-year-old child was brought to the emergency of Rush Memorial Hospital in the arms of his mother. The child was comatose, cold and pulseless.

The abdomen was enormously and tightly distended to such a degree that the palpating finger could make no impression on the abdominal wall. The obstructing effect of this distention had produced a line of demarkation at the level of the fifth rib anteriorly. The head and chest were pallid, the distal two-thirds of the body and extremities showing extreme cyanosis.

It was learned that the child was acutely injured in a playful prank during which an air hose was brought into the proximity of his anus.

From the history it appeared definite that the abdomen became insufflated with air from a filling station air hose which was not inserted in the rectum, but was completely external to the body. It was felt that the colon had been ruptured and that a pneumoperitoneum existed.

Reference: D. S. White; male; age, four years; Case No. 51,456. Patient of Dr. Horace Hunt, Livingston, Alabama.

Decompression: Under novocain analgesia in the emergency room a twenty-three-gauge hypodermic needle was inserted into the midline of the abdomen for paracentesis. Air immediately began to escape with a humming noise. The abdomen was almost completely decompressed over a period of fifteen minutes, during which the cyanosis of the lower part of the body disappeared. The child became warmer, the pulse returned but was thready, and the child began to show some signs of returning consciousness.

The child was then admitted to the hospital where he was given an immediate transfusion of whole blood.

At 9:05 p.m. a laparotomy was performed.

Prior to surgery a duodenal tube was placed in the stomach. The anus had been uninjured.

Operation: A large left paramedian incision was made. The bowel was inspected beginning at the rectum and large multiple rents were found, involving the wall of the entire sigmoid and the descending colon but leaving the mucosa intact.

The transverse colon had suffered very severely with large longitudinal rents involving the entire transverse colon, but here, too, the mucosa was intact. The areas were sutured with No. 000 chromic catgut.

The cecum was found to have exploded, rupturing the entire extremity with violent tears in the wall. The appendix was still attached to a portion of the cecum.

The abdominal cavity was found to contain widely scattered liquid and solid feces, the pressure of air having almost completely evacuated the colon through the cecum.

One coil of ileum, which evidently was in the line of blast from the cecum, had multiple peppered areas as if it had been compressed by sand paper. The region of the hypogastric vein was markedly ecchymotic from the effect of the blast.

A debridement of the cecum was done with plastic reconstruction so as to preserve the appendix which was brought through a stab wound for an appendicostomy drainage.

[†]From the Department of Surgery* and Pediatrics,** Rush Memorial Hospital, Meridian, Mississippi.

The abdomen was cleansed by areas so as to free it of feces, using normal saline irrigation with suction.

The abdomen was closed in layers without drainage in the usual manner.

Postoperative Course: At the time of surgery the patient had recovered from shock and showed little signs of shock during surgery, which was completed at 10:38 p.m. 500 cc. whole blood were given during the surgical procedure.

He was returned to bed, apparently in good condition, and passed an uneventful night. At 6:25 a.m. he died suddenly.

Autopsy was not done.

Impression was gained that the child died of pulmonary embolism.

Discussion: In retrospect, venous ligation probably would have been advantageous, as death was apparently due to pulmonary embolus, and contusion had occurred in the line of the hypogastric vein.

It is interesting to note that the violent pressure from the nozzle of the hose did penetrate the lumen of the rectum without bruising the superficial tissue or leaving a mark of any kind.

The small bowel was apparently saved from harm by dissipation of the force at the ruptured cecum.

Decompression of the abdomen with a hypodermic needle proved a temporary life-saving measure which made ultimate surgery possible.

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Toxemia of Pregnancy

Joseph A. Johnston, M. D., Henry Ford Hospital, Detroit, Mich.
Endocrinological Problems of Normal and Abnormal Growth and Development

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Editorials

SPURS PHYSICIANS TO BE GOOD CITIZENS

The presidential address of Dr. Louis H. Bauer should be read, studied, and utilized by every doctor practising medicine in this country. The American Medical Association is meeting its responsibilities in a much more effective manner than it did a few years ago. It now has the broader vision of building a citizenship adequate to meet every need of the people. Dr. Bauer speaks of promoting public health and public welfare.

The president is quite right in stating that the United States is now the mecca for medical education, this nation offering the highest levels in medical training and medical service. The medical profession can and should be the cornerstone for the American way of life. The American Medical Association, as pointed out by the president, has taken the lead in raising the standards of our medical schools, has been a great power in developing voluntary insurance, has met the issue in the battle for the individual, and for free enterprise, as well as the sacred doctor-patient relation that has been so dear to the people of our nation.

Dr. Bauer does not fail to score the few doctors who are not a credit to the profession and urges that they should be put out. Practising scientific medicine and making money does not answer the full responsibility of the doctor. He needs to know the individual and his problems and to keep in mind the building of a good citizen and a good community. The doctor needs to go on full-time duty as a citizen. He has no right to take the easy way and be a parasite on human society in this respect.

The first major attack on Americanism was leveled at the medical profession. The American Medical Association met the issue squarely and gained a temporary victory, but it is not settled. The medical profession must do its full duty every day and in every way to make the victory certain. The past record of the medical profession in this country is fine, but it will not insure future security if we do not continue to go forward and to set a goal to carry the best in medicine to all the people at a cost at which it may be utilized. The doctor must not forget that he is an American citizen. Personal interest in politics and public relations can do more than millions in propaganda. Read and study Dr. Bauer's great address.

News and Comment

A. M. A. MEETING

More than 10,000 physicians were registered at the 101st Annual Meeting of the American Medical Association in Chicago at the close of the five-day assembly on June 13. Twenty-six members of the Mississippi State Medical Association were reported as registrants by meeting officials.

Activity centers were the mammoth Navy Pier, scene of the technical and scientific exhibits as well as scientific sections, and the Palmer House, official headquarters and meeting place for the House of Delegates.

Edward J. McCormick,M. D., Toledo, Ohio, was named president-elect during closing sessions on June 12. He was elected over F. F. Borzell, M. D., Philadelphia, who was retiring as Speaker of the House.

Louis H. Bauer, M. D., Hempstead, N. Y., was inaugurated as president during an impressive program on June 10.

The House of Delegates, during its four-day session, handled a tremendous number of resolutions, reports, and memorials. Outstanding among items considered was the President's Commission on the Health of the Nation, previously denounced as a political instrument for socialized medicine.

The meeting included scores of scientific papers and more than 375 technical (commercial) exhibits.

Paul D. White, M. D., Boston heart specialist, received the 1952 A.M.A. Distinguished Service Medal.

Mississippi physicians reported by the official registration bureau were Lamar Arrington, Meridian, President, M.S.M.A.; J. P. Culpepper, Hattiesburg, delegate; and James Grant Thompson, Jackson, immediate Past President, M.S.M.A.

Norman J. Bernstein, Jackson; J. R. Cavett, Jr., Jackson; R. H. Clark, Hattiesburg; O. G. Eubanks, Crystal Springs; and Harvey F. Garrison, Jackson.

Hugh A. Gamble, Greenville; Happy L. Gee, Jackson; A. B. Harvey, Tylertown; Fred W. Hauser, Greenville; Thurman T. Justice, Jr., Gulfport, and Thad D. Labecki, Jackson.

John F. Lucas, Greenwood; H. G. Magee, Jackson; William R. Mitchum, Jr., Meridian; Estelle A. Magiera, Jackson; J. A. McDevitt, Shubuta; and Lucas B. Merriam, Waynesboro.

Theo F. Middleton, Meridian; H. A. Nelson, Greenwood; A. W. St. Clair, Jackson; D. P. Street, Vicksburg; J. T. Thompson, Moss Point; and Felix J. Underwood, Jackson.

It was announced that the 1952 Interim Meeting would be in Denver and the 1953 Annual Meeting, New York.

NORTHEAST HOLDS MEETING

The Northeast Mississippi Medical Society held its second quarterly meeting at Houston on June 10, presided over by Dr. E. W. Eberling of Starkville. Dr. Cy C. Johnson of Jackson was the guest speaker, his subject being, "Modern Treatment of Urinary Tract Infections."

Houston with its splendid hospital and fine training school for nurses has long been a leader in North Mississippi's march of medicine. Dr. V. B. Philpot, formerly chief surgeon of this institution, was succeeded by Dr. John Dyer, owner and general surgeon now. Drs. Armstrong and J. Rice Williams have long interpreted the medical atmosphere and friendliness of this little city. Dr. Dyer presided at the banquet, calling on Drs. Hill, Caldwell, Philpot, and our president-elect, Dr. M. Q. Ewing. Each one had words of appreciation for Dr. J. Rice Williams, whose ability in his chosen specialty and whose knowledge and wisdom and leadership as a Christian citizen are widely recognized. One of the first in the Fifty-Year Club, his medical integrity has long benefited the state association.

The next meeting goes to Amory in September, the home of Dr. G. S. Bryan, the sage of Monticello in medicine, and the home of Dr. M. Q. Ewing, president-elect of the State Medical Association.

Deaths

DR. H. H. MECKLIN

Services for Dr. H. H. Mecklin were held in Yazoo City on May 24.

Dr. Mecklin, who was 68, died at the home of his brother, Dr. J. N. Mecklin of Louise, while on a short vacation from the Veterans Hospital in Gulfport. He had been in bad health for eight years and his death was caused from an attack of coronary thrombosis.

Dr. Mecklin was born at French Camp, Dec. 27, 1884. He attended French Camp Academy and received his college education at Washington and Lee University. He was a graduate of the Medical Department of the University of Tennessee in Nashville. He practiced medicine at Holly Bluff, Miss and removed to Yazoo City where for several years was laboratory technician for Dr. Carl Day.

DR. C. C. PARNELL

Dr. C. C. Parnell, prominent Delta physician, died of a heart attack at his home in Sledge, Miss., on May 18. He was seventy-five.

Dr. Parnell was a native Mississippian, attending Mississippi College at Clinton, the Memphis Medical College in Memphis, Tenn., and was graduated from Washington University School of Medicine in St. Louis in 1899. For more than a half century he had practiced medicine in Panola and Quitman counties in the Delta.

Community church, and political interests gave Dr. Parnell a seasoned philosophy and a place of deep affection in the hearts of his fellowmen. A loyal Methodist, a Mason for more than fifty years, a faithful member of the Clarksdale and Six Counties Medical Society, the Mississippi State Medical Association, and the A. M. A., he kept informed and active. Dr. Parnell was admitted to the Fifty-Year Club and remained an enthusiastic participant of this honored group.

Dr. Parnell leaves his wife, five children and six grandchildren

INTERPRETING MEDICAL LITERATURE

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson
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Surgery—W. H. Parsons, Vicksburg
Urology—Temple Ainsworth, Jackson

PEDIATRICS

ORAL PENICILLIN IN THE PROPHYLAXIS OF RECURRENT RHEUMATIC FEVER. M. M. Maliner, Brooklyn, N. Y. J. Pediat., 37:858-61, Dec. 1950.

In a previous study it was found that penicillin troches of 5000 units each when held in the mouth of the potential rheumatic patient were efficacious in sterilizing the mouth and throat for up to two hours at a time. By having the patient take these three times a day, it seemed possible to protect the patient against streptococcus infections of the throat without causing any demonstrable level of penicillin in the blood and without sensitizing the patient to the drug. In 86 children under study a routine examination including a throat culture was made. Forty-six were control cases given placebo troches of similar size, shape and taste. A list of the various organisms recovered are mentioned in the original article. In the control group of thirty rheumatic children, 6.6 per cent had a recurrence of rheumatic fever, whereas no child using the penicillin troches presented any evidence of rheumatic activity. The author recommends the use of 5,000 unit penicillin troches for the prophylaxis of recurrent rheumatic fever.

COMMENT: June 19, 1952

This article is very timely and interesting to say the least. I personally do not contribute too much to the advisability of using the troches for the administration of penicillin though they are very beneficial in bringing improvement during treatment when given by mouth.

CAT-SCRATCH FEVER. A DISEASE ENTITY. William E. R. Greer and Chester S. Keefer, Boston, Mass. New England J. Med. 244: 545-48, April 12, 1951.

A case report is given of a 36-year-old white man who, ten days after being scratched by a short-haired house cat, developed a systemic infection with malaise, fever, a maculo-vesicular rash, and large lymph nodes.

"Cat-scratch fever" has been described from other countries Debre' and co-workers recently reported a case in a 6½-year-old child under the title: "La maladie des griffes de chat." There are no characteristic clinical or laboratory findings, except those that exclude adenopathy of known etiology. The infective agent has never been identified; it appears to be a virus. An agent present in the pus from buboes will produce a specific skin reaction after being made into a skin antigen by the classical Frei procedure and injected intradermally into the patient. The disease is self-limited; thus far no specific therapy is indicated.

An antigen was prepared from the material in the patient's neck bubo in the manner described for Frei antigen preparation and 0.1 cc. was injected intradermally. A positive reaction was noted at twenty-four hours and forty-eight hours with redness, swelling and slight itching over an area more than 2 cm. in diameter. Six control patients showed no reaction to intradermal injection of this material. These results seem to indicate a high specificity of this antigen.

A discussion is given of diseases that may be transmitted to human beings through cat contacts. The list includes: tularemia; rabies; rat-bite fever; feline pneumonia (virus); diphtheria; tuberculosis; brucellosis; typhus; leptospirosis (?); ringworm (Microsporum felinum, T. circinata); creeping eruption (Ancylostoma braziliense); favus (Achorion schoenleini); pasteurellosis; plague (?); histoplasmosis (?); cat fever.

COMMENT: This is quite an unusual or heretofore unrecognized condition. To say the least it is very interesting and certainly in many instances not easy to diagnose, and one in which it is best to treat vigorously in order to offset this serious type of infection.

Woman's Auxiliary

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Agenda for Coming Year

At the post-convention board meeting of the Auxiliary to the Mississippi State Medical Association, Mrs. Richard Clark, Hattiesburg, presiding, a number of suggestions were made for consideration and participation by local auxiliaries.

1. The Essay Contest, of which Mrs. Leonard Posey of Jackson is again chairman, received such impetus by a Gulfport boy wining the national prize this year, its challenge should draw entrants next winter from every community. Auxiliaries are urged to cooperate with their medical societies in presenting the essay plan and agreeing upon a local prize. The winning local essay is then sent for state competition, where $100.00, $50.00, and $25.00 are offered in prizes. The most successful method of participation is through the schools.

2. Auxiliaries are reminded of the $200.00 Nurse Scholarship set up by the state organization. Local scholarships may also be set up as cooperative projects.

3. Health Days are new and increasing in effectiveness. Local groups may sponsor a day on a health problem, inviting local physicians to speak and having an able chairman conduct a forum of interested citizens. Information, progress in health problems, fellowship, and improved public relations are worthwhile results of such days. One specific outcome may be the organization of a community health council.

4. Associations with lay memberships are formed for the general dissemination of knowledge of a particular disease—polio, cancer, etc.,—with the two-fold purpose of prevention and raising funds for research. A move has been started to form a mental hygiene association in Mississippi. Doctors' wives may obtain information and determine their participation in such an organization.

5. Two little children who might be borderline tuberculosis cases may be sent by your auxiliary to the Preventorium on the fund we are providing each month.

The summer vacation months will permit little activity, but the challenge is wonderful for enthusiastic undertakings in September. Try your own resourcefulness, auxiliary members!

"I turn to view with unshed tears
The furrowed track of ended years;
And striving still to understand,
The world to me is wonderland.
Seale Harris

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The Management of Toxemias of Pregnancy*

Richard D. Bryant, M. D.
Cincinnati, Ohio

IN A DISCUSSION of this sort, it is important to define the terms being used. We used the term toxemia to denote that specific complication of pregnancy which is characterized by a rise in both systolic and diastolic blood pressure, the single characteristic of toxemia which is always evident clinically. Not uncommonly this condition is preceded by or accompanied by tissue water retention, as revealed by sudden excessive weight gain, or by clinical oedema. Albuminuria is frequently present and its degree roughly parallels the severity of the disease. The above syndrome we term preeclampsia. If to this is added convulsions, then the diagnosis is changed to eclampsia. An important aspect of our concept is that it is not a specific blood pressure level which is characteristic, but rather a sustained elevation above that found in the first twelve weeks of the pregnancy. Thus a patient whose normal blood pressure is 100/60 may be seriously toxic if it rises to 135/95, in fact far more seriously than the one whose pressure rises from a normal of 120/80 to 140/95, or the hypertensive whose pressure goes from 150/100 to 165/105. For the average patient, 140/90 is considered the dividing line between normal and toxemia.

Equally important is a plausible theory as to the pathologic physiology of the disease. The tremendous volume of literature which has accumulated on the subject tends to confuse rather than clarify the picture. Our feeling is that toxemia is essentially a functional disease—**abnormal vasoconstriction.** Accompanying this and either caused by it, or at least caused by a common agent, there is usually a change in the metabolism of the sodium ion, either in the form of abnormal retention of the ion in the tissues, or abnormally great reabsorption in the kidney tubules. This sodium attracts and holds water.

We do not know what the specific substance is which produces these changes. The results of research by Dr. Assali in our department strongly suggests that it is humoral, that is blood-borne, and acting more or less directly on the blood vessel walls, not through a nervous mechanism, such as the sympathetic system.

The pathological effect of abnormal vasoconstriction at the level of the smaller arterioles is suboxidation of the area supplied, and even of the walls of the arterioles themselves. This leads to changes in the metabolism of the involved tissue. The clinical signs and symptoms depend on the organs involved. In the kidney swelling of the basement membrane of glomeruli results in albuminuria, diminished urinary output and possibly decreased uric acid output. In the liver so-called typical hemorrhages may occur. In the brain localized areas of degeneration appear. In the uterus there may be decidual hemorrhage and necrosis, with degeneration of adjacent placental tissue and formation of placental infarcts, or even of retroplacental hemorrhage and the classical signs of premature separation of the placenta. Clinical evidence of vasoconstriction is easily determined in two ways. Study of the eye grounds reveals constricted arterioles, and blood pressure readings reveal that the peripheral resistance is increased.

Preeclampsia is not a preventable disease in ordinary practice. Its incidence in a group of patients can be reduced substantially, however. Toxemia of pregnancy is one of the major causes of maternal death, and good prenatal care is in large part directed toward the prevention, or at least early detection of this killer. The very intervals between prenatal visits is determined in a sense by the known behavior of toxemia. In early pregnancy advice should be given about diet, with emphasis on a high protein non-fattening regime. The role of protein in toxemia is not known, but it is pretty generally accepted that the incidence is least in patients on a good protein diet. Unfortunately protein is an expensive food, but milk is an excellent source. We tend to forget that a quart of milk contains 30 grams of protein. Obesity itself seems to predispose to toxemia, so a low calory diet may be indicated. Other conditions which predispose to toxemia are multiple pregnancy and diabetes.

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Because toxemia tends to appear relatively late in pregnancy, check-ups need be no closer than three or four weeks during the first two trimesters. Weighing the patient, taking the blood pressure and examining the urine for albumin should be done at every visit. The patient is more likely to remember to bring a specimen of urine every visit than she is to bring one once in a while, and the doctor must check the blood pressure and weight each time—it is easy to forget to do it next time.

Sudden unexplained gain in weight at a rate greater than one pound a week may be a warning of early toxemia, but the diagnosis cannot be made in this finding alone. To be on the safe side it should be assumed to be due to toxemia. Two quarts of fluid a day should be the minimum intake. Diet should be reemphasized and a low sodium intake should be prescribed. For the average patient salt-containing foods should be listed in detail, as most of them seem to forget that butter, bread, olives and bacon for instance are quite salty. One of the common sources of the sodium ion is ordinary baking soda. It should be banned completely. And don't forget to advise the patient to be on the look-out for danger signs—oedema, oliguria, cerebral signs, eye signs, epigastric pains, headache, vomiting.

Observation of the patient should now be more frequent. If sodium restriction has had little effect on fluid retention, ammonium chloride may be helpful; one or two grams three times a day may be prescribed.

The appearance of albumin in the urine, a rise of blood pressure of 30 or more millimeters systolic or 20 millimeters diastolic, or the appearance of symptoms are indications for hospitalization. The patient is now definitely toxic, and while toxemia cannot (with very rare exceptions) be cured while the patient is pregnant, but with adequate treatment the process can be reduced in severity, or at least held in check.

In the hospital, treatment should include the following:

1. Bed rest. Much oedema can be rid of by this measure alone.
2. Blood pressure readings every one to four hours depending on the severity of the case.
3. Low sodium diet.
4. Daily weight—a good method of determining the degree of fluid retention.
5. Measure intake and output—this is the only way to be sure how severe kidney involvement and sodium retention are. A retention catheter is helpful especially if the output is much reduced.
6. 3000 cc. or more a day in fluid intake. The fluid held in the tissues is not available for excretory purposes. We sometimes forget that the chief function of the kidneys is to excrete solids, not fluids, but the solids must have water in which to be dissolved.
7. Daily urine examination.
8. Routine blood examinations. In pure toxemia, blood chemistry studies are of little value. Some elevation of the acid may be found, and in severe cases a lowered carbon dioxide combining power.
9. Magnesium sulphate—50 per cent solution. An initial dose of 10 cc. may be given intramuscularly in the buttock, and 5 cc. are given every 6 or 8 hours.
10. The ammonium chloride may be continued.

As you can see, five of these procedures are for diagnosis and follow-up; one is to promote urinary output; three are to get rid of edema; one—the magnesium sulphate—is a combined dehydrator and a mild sedative. You may wonder why no ordinary sedatives are recommended. We do not believe they are necessary.

Marked improvement usually appears within 24 hours. The signs of improvement are 1) increased urinary output, 2) decreased albuminuria, and 3) falling blood pressure, usually in that order, and we believe that order of importance. After 72 hours of improvement, the treatment can be liberalized and activity allowed. Favorable cases can even be dismissed from the hospital, to be followed in the office, still of course on the high protein, low sodium diet as previously. If the patient is very close to term labor may be induced if the cervix seems to be ready or "ripe".

What happens to the pre-eclamptic who is untreated, or is inadequately treated or fails to respond to treatment? Any one of several things may happen.

1. She may go into labor and deliver.
2. The baby may die, following which the toxemia improves.
3. Premature separation of the placenta

may occur, which must be treated as a separate entity.

4. Death may follow failure of some organ—cerebral hemorrhage, cardiac failure, complete urinary suppression with uremia.
5. Eclampsia may develop. This immediately makes the patient's prognosis about ten times worse.

At this point I should like to return to theoretical considerations for a moment, to review our concept of the altered physiology present in toxemia. We believe that pregnancy produces, or causes to be produced, some substance which for want of a better term can be called atoxin. This in turn causes vasoconstriction followed by suboxidation and oedema. The oedema may be clinical oedema or swelling of isolated portions of organs and tissues. The clinical signs and symptoms are directly related to the areas thus involved. As pointed out above, the treatment so far discussed is concerned chiefly with the relief of oedema. But the logical attack on any disease process is at the source. However, in preeclampsia this is not ordinarily feasible. Often toxemia develops far enough from term that interruption of the pregnancy—the real cause of the disease—would result in the delivery of a baby so premature as to have little chance of survival. In the severely ill patient, accouchment force or cesarean section is contraindicated. So the logical solution to the problem is impractical. The next approach would be to prevent the development of or to neutralize the so-called toxin. Since we don't know what this is, this cannot be done. The toxin causes vasoconstriction. Why not relax the constricted arterioles? Our answer is "we do". For years we have been doing just that. The drug which we use to accomplish this is veratrum viride. It was used empirically in Alabama at least 75 years ago and has been employed in Cincinnati for over 50 years. Pharmacological evidence seems to indicate that veratrum viride is a potent relaxer of abnormally constricted arterioles, causes no decrease in cardiac output, and slows the cardiac rate. It normally causes nausea and vomiting in a large percentage of patients. The commercial product used in most of our patients was veratrone made by Parke Davis and Co.

Clinically the effect of the administration of an effective dose of veratrone is a rapid fall in blood pressure due to arteriolar relaxation, and we feel that conversely the fall in pressure is an index of the amount of relaxation. The maximum effect is reached in about a half hour and shortly the arterioles begin to constrict again, with a consequent rise in pressure. Even under the maximum influence of veratrone, the arterioles are not paralyzed; they will still respond to epinephrine. Usually coincident with the fall in pressure there is slowing of the heart rate. The patient also may vomit repeatedly and copiously.

Veratrone is a potent drug, but relatively short acting in most patients. Patients vary markedly in their reaction to it. Resistance to the drug does not often develop. It is only slightly effective when administered orally. Because of these facts, the use of veratrum viride is confined to hospitalized patients, and because of the unpleasant side effects and the necessity of frequent blood pressure checks its use is usually restricted to patients with marked elevation of blood pressure, severe oedema, large quantities of albumin in the urine, or definite symptoms, such as headache, epigastric pain, or visual disturbances, or with eclampsia itself.

It is a known fact that in toxemia the prognosis for both mother and undelivered baby is much poorer if convulsions, that is, eclampsia develops. The degree of vasoconstriction which is necessary to produce the cerebral changes which cause convulsions is different in different patients. This is shown by the fact that one patient will have convulsions with a blood pressure of 135/95 while another patient will not have convulsions with a pressure of 190/120. The general principle we follow in using veratrum viride is to relax the arterioles sufficiently to maintain the blood pressure at least 20 millimeters systolic below the maximum pressure found in preeclampsia, or below the level present when convulsions occurred in actual eclampsia.

The initial dose of veratrone should be 5 or 6 minims hypodermically. The blood pressure is recorded every five minutes until successive readings are nearly the same, indicating that the maximum effect has been achieved. This is usually about 30 minutes after the administration. The amount of blood pressure fall following 6 minims may be anything from nearly nothing up to 100 or more millimeters. Not uncommonly the fall will be to the level of 80/50, with a pulse of 40 to 50. But patients with such a pressure usually feel perfectly well, are clear mentally, and remark about the relief of headache, etc. Return of the blood pressure toward the original level soon begins, and repeat doses of the drug are indicated as described above. Doses should not be repeated at stated intervals, but rather when half-hourly or hourly blood pressure readings indicate them. Subsequent doses should be adjusted as the reactivity of the patient to the drug is ascertained.

A convenient and effective method of maintaining a fairly constant blood pressure level is that of giving veratrone intravenously as a continuous drip. Two cc. of veratrone are mixed with 1000 cc. of 5 per cent glucose in water. After the initial hypodermically administered dose has achieved its full effect, and the pressure is reaching normal or slightly elevated levels, this solution is started intravenously at the rate of 100 cc. an hour. The patient then receives one tenth of the total veratrone, that is 0.2 cc. or 3 minims an hour. The rate of administration is adjusted to maintain the pressure at any desired level. This type of treatment can be continued for several days if necessary.

When eclampsia has developed, the specific measures to be carried out promptly are as follows:

1. Give 6 minims (0.4 cc.) veratrone stat:
2. Give 10 cc. of 50 percent mg SO_4 solution intramuscularly-stat.
3. Start the intravenous administration of 5 per cent glucose in water stat.

In our experience 75 per cent of eclamptics will have no more convulsions after these procedures have been carried out, and an additional 10 to 15 per cent will have only one more convulsion, and this before the drugs have had sufficient time to act. Other routine procedures are the usual ones; protecting the patient against self injury, suctioning of mucus from the pharynx, oxygen for the post-convulsive cyanosis, blood and urine studies, etc. Veratrone is administered intermittently or continuously, as indicated previously.

In undelivered patients, no attempt is made to interrupt the pregnancy for 48 to 96 hours. There is no urgency about this part of the treatment, since the toxemia is under absolute control at all times. Induction of labor may be indicated. This is accomplished by the usual methods, castor oil, rupture of membranes, etc. A procedure we have found especially helpful is repeated stretching of the cervix and stripping of the membranes from the lower uterine segment. This may be done daily or every other day, and it is amazing how a long thick closed cervix will soften, efface and dilate. Artificial rupture of the membranes may be feasible on the third or fourth examination. Cesarean section is resorted to only if the cervix is completely intractable, or there is good obstetrical reason for doing it.

The toxic patient must be observed closely for at least 48 hours after delivery, since the pathologic processes are not abolished instantly on delivery. Broadly speaking, development of convulsions post-partum is an indication of insufficient medical attention. Also we feel that in any patient with preeclampsia, actual convulsions are always preceded by symptoms. These may last only a few minutes, or for several hours. Patients should be warned to report headache, epigastric pain, nausea or eye signs and all attendants must be alerted to their possible significance. Not all clampsia is preventable, but many cases are.

It is difficult to evaluate the results of treatment in preeclampsia. Our results are good. In eclampsia itself we have a remarkable record. In our series of consecutive cases since January 1, 1930 up to the present there were only three deaths in over 200 eclamptics, a mortality rate of less than 1.5 per cent. And of the three patients who died, two died of sepsis, before the sulfa drugs and antibiotics.

I feel no hesitancy in recommending the method of treatment to you. It is relatively simple, requires no special equipment nor involved technic, is inexpensive and effective. It is tremendously comforting for a doctor to know that he can stop the convulsions of eclampsia, and absolutely prevent their recurrence. One of the big advantages, to my mind, is that the patient is maintained in a completely conscious state after recovery from the original post-convulsive coma. There is no feeling of urgency about emptying the uterus.

I should like to point out in conclusion that it is perfectly obvious from the literature that almost any standard method of treatment of eclampsia results in a 95 per cent cure rate.The difference from 95 per cent and 98.5 per cent doesn't seem great, yet in the

30,000 or more cases of eclampsia which occur yearly in the United States, that little difference of 3.5 per cent means over 1000 deaths a year. We feel that the treatment outlined prevents deaths from cardiac failure by lowering peripheral resistance; from cerebral hemorrhage by lowering the arterial pressure; from aspiration pneumonia by stopping the convulsions and returning the patient to consciousness; and from anuria by restoring renal circulation.

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Physiology and Management of Penetrating Chest wonds

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The title of this paper was listed before starting the paper, and is entirely too broad. It is impossible in the course of twenty minutes even to make a resume of the field covered by the title. This paper is written solely for the doctor in general practice, and except to explain the rationale of advice in regard to treatment by the general practitioner, will not deal with surgical care.

There has been tremendous progress both in the understanding of the physiology and pathology of chest wounds as well as in their treatment. This improvement in understanding of the physiology and management of penetrating chest wounds is or at least should be familiar to all general surgeons, because they have or expect to have to deal with them. This is not true of the general practitioner. He does not expect to treat them and expects to transfer them at once to the care of a surgeon, and many doctors in general practice have not made themselves familiar with recent progress in this field. This is entirely understandable as the busy doctor has to be conversant with all the multitude of problems of diagnosis and treatment of general practice and is likely to spend his study time on problems which he meets more frequently.

This fact has been impressed upon me by two cases of chest injury, both of whom proved fatal and both of whom were seen by excellent general men, but neither of whom would probably have died if the physicians concerned had understood a bit more of the physiology of chest wounds. It was because of this that I chose to write this paper. In this day of automobiles, farm trucks, tractors, and machinery of all sorts, Saturday night drinking sprees with their playful cutting and shooting amusements, the general practitioner is not likely to escape having sooner or later to care for a dangerous chest wound. If any doctor present picks up any pointer that may aid him, then the object of this paper is achieved.

Physiology

For the purpose of the pathology under consideration the chest cavity can be considered as a semi-rigid box open only at the bottom, and this bottom consisting of a large muscle, the diaphragm, which by alternately contracting and relaxing increases the vertical space within the box. We note the term "semi-rigid" in describing this box or cage. ribs, with the sternum in front and vertebral The upper part consisting of the first six column behind is almost rigid in the adult rigid in the elderly, but flexible in the infant or youngster, but even in those younger people it acts physiologically as if it were rigid. The lower six ribs are more flexible and do move considerably with movement of the respiratory muscles alternately enlarging and diminishing the circumference of the chest cavity.

Inside this bony cage is a cavity, the middle of which contains the heart, large blood vessels, esophagus, and larger breathing tubes. This space is called the mediastinum. To either side of the mediastinum is a closed space called the pleural cavity which normally is completely filled by the expanded lung with the parietal and visceral pleura completely in contact with each other. The normal lung is as elastic as a rubber band and is held expanded in the vacuum of the pleural space by the pressure downward of 14 pounds of atmospheric pressure, through the open windpipe. The lung does contain breathing tubes and blood vessels which limit its contractibility somewhat but is still elastic enough to contract up into a small ball, if the vacuum of the

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*Presented at the quarterly meeting of the North-Mississippi Medical Society, June 1952 pleural cavity is destroyed by a large opening ino the pleural cavity. This ability to contract down may be limited by various disease factors such as fibrosis in the lung, or its blood vessels, or more completely by adhesions between the parietal and visceral layers of the pleura.

Normally the lungs completely fill the pleural cavity and the progress of breathing consists in enlargement of the vertical and circumferential diameters of the chest cavity by the action of the respiratory muscles, the lung expanding to fill the void. In the elderly, or the victims of pulmonary, cardiac and some other diseases, the chest expansion may be very limited and the movement in and out of air from the lung may be on the borderline of what is necessary to survive, before any wound of the chest occurs. Chest wounds in such cases are of course more dangerous.

The next factor to consider is the partition between the two pleural cavities, the mediastinum. This partition is not rigid. It is flexible and capable of being pushed to one side by increased pressure in the opposite pleural cavity since the two pleural cavities do not communicate with each other. It may become more rigid as result of chronic infection, but normally the mediastinal structures are remarkably elastic. In the event of increased intrapleural pressure, since the chest wall is physiologically to be considered as rigid, the only structure which changes position as result of this pressure is the mediastinum, which moves to the opposite lung, and also frequently interfering with circulation through the large blood vessels in the mediastinum.

The next factor to consider is the blood supply of the chest wall, and hemorrhage from the lung itself. On the under edge of each rib, in a small groove in the rib and partially protected by the rib, runs an intercostal artery, nerve, and vein. The artery is the important structure. Posteriorly these arteries come directly off the thoracic aorta and anteriorly the same artery is supplied from the internal mammary which comes directly off the subclavian. Since these arteries are supplied from both ends from large arteries near the heart, the blood pressure in them is relatively high and if wounded will bleed viciously from BOTH ends.

The lung contains a rich blood supply but the pressure is not as high as that of the general circulation. Next, a wound of the lung usually ruptures air cells too and allows air to enter the pleural cavity, thereby allowing the lung to collapse, and with the collapse of the lung the blood vessels shrink, diminishing or even stopping the bleeding. Wounds of the great vessels about the root of the lung do not conform to this formula, but that is not germane to this paper since these cases are only amenable to treatment if they occur on the hospital doorstep with the operating room already set up.

Another situation that may transform bleeding from a lung puncture into a serious affair is disease of the lung which prevents collapse and allows bleeding to continue, or bleeding from a thick adhesion between the two layers of the pleura which has torn and may contain a large blood vessel. But either of these situations will not involve the general practitioner but are cases for the surgeons.

The next factor to consider is the absence of a fixed bony cage such as occurs when a whole chest is crushed with fractures of many ribs. In such cases, when the respiratory muscles contract to enlarge the chest cavity for inspiration, the point of fixation being lost, the crushed chest wall moves in instead of out and no increased amount of air enters this lung. All the load is thrown on the opposite lung. If the condition is bilateral and severe such cases usually succumb before a physician sees them. If less severe the condition will depend upon whether there is an external opening into the pleural cavity, and if so its size, how much hemorrhage and whether controllable.

Types of Wounds and Their Emergency Management.

1. Small penetrating wounds of chest wall and lung.

This type of wound is the type seen as result of small calibre gunshot or stab wound. The things to observe in this case are: 1) How much shock? 2) Is there external bleeding and how much? 3) Is there evidence of internal bleeding? 4) How much interference with breathing? 5) Is the chest hyper-resonant? 6) Is the chest flat? 7) Is there air in the tissues? 8) What is the course of the injurious object, (bullet, knife)?

If there is evidence of much bleeding either external or internal into pleura as evidenced by flat chest and increasing shock, the chances are that the bleeding is coming from a severed intercostal artery rather than from a lung wound. The physician's course should be decided entirely upon the basis of how long it will take to get this man to a surgeon and hospital. If it is a matter of just a few minutes then move him to hospital at once. If on spreading the wound a visible spurting vessel is seen clamp it and leave clamp on using such sterile precautions as are possible under the circumstances existing. Remember that it is possible to heal infection in a live man, and a dead man is just as dead even though you did not contaminate his wound.

If circumstances are such that transportation to a hospital will involve a long trip and considerable time, and shock is increasing then an emergency is on your hands. You must act, or you will have a dead man. Enlarge the wound and search for the bleeder, under local anaesthetic if available, under morphine and atropine of local anaesthesia is not available. If the bleeding is from an intercostal vessel it will be found under the lower edge of the upper rib on its internal surface. Clamp or tie BOTH ends of the vessel under best antisepsis available, apply a tight dressing and move to hospital.

If no bleeding intercostal vessel is found and yet there is evidence of marked intrapleural bleeding then it is possible that the bleeding is coming from the lung and the lung not collapsed because the entrance wound was small and sealed and not sufficient air escaped from the lung to allow the lung to collapse. The safest thing in this circumstance is to enlarge the opening sufficient to be sure air enters the pleural cavity, apply a dressing and move to hospital You have done all you can do unless by some chance you have a bottle of glucose along in your car to give him intravenously on the way to the hospital.

In event that the patient is not shocked and does not show signs of severe bleeding, the safest thing is to apply a sterile dressing and move to hospital at once. Do not allow him to remain at home on the basis that moving will increase bleeding or that he may get along O. K. at home. The first is not true. Chest wounds will bleed to death just about as rapidly lying down at home as in an auto on the way to the hospital. The second argument is wishful thinking. Some may get well at home. A lot of them will not.

II. Penetrating wounds without evidence of severe bleeding, or wounds with no penetration from the surface.

This type of wound may be the result of gunshot or various sharp instruments or the result of a fall or blow or auto wreck. The point of distinction in this case in contrast to the previous class of wounds is that there are no signs of internal or external hemorrhage. The things to note in this class of wounds after you are reasonably certain that there is no severe bleeding are as follows: 1) Is there air hunger dyspnoea, cyanosis? 2) Is one lung hyper-resonant? 3) Is the heart displaced? 4) Are there fractured ribs that may have penetrated a lung, causing pneumothorax?

If none of these signs are present, and the patient not too distressed you can safely remove the patient to a hospital or clinic for x-ray examination and treatment. If you are in doubt about intrapleural bleeding do not hesitate to aspirate the injured pleural cavity to see if there is blood in the chest.

If the patient has signs of pneumothorax, with dyspnoea and cyanosis and shock, you have an emergency on your hands and must act. This is tension pneumothorax. You have no time to move the patient anywhere, even if it is only two blocks. The mechanics of this condition is as follows. In a small penetrating wound of the chest wall and lung the wound seals and does not allow air to enter the pleura, or in a puncture of the lung by a fractured rib end, the opening in the lung acts like a one-way valve, allowing air to enter the pleural cavity but not to escape. Autopsies of such cases usually show that the wuond penetrates a small bronchus and a portion of lung acts as a flap valve over it. More air enters the pleura with each breath, even after the lung collapses. The pressure continues to rise, the mediastinum shifts over more and more to compress the opposite lung and eventually to interfere with circulation in the large vessels. Eventually even though the patient makes tremendous efforts at breathing no air moves with respiration and asphyxia results, and very rapid death ensues.

The emergency treatment is simple, easy, safe and both lifesaving and dramatic. The cardinal point is HURRY. This patient will not live for you to do it in completely sterile fashion. Make an opening in the pleura for the air under pressure to escape. The relief is immediate. How you make this opening will depend upon the circumstances. If the patient has been brought to your office, it can be done by aspirating the chest with a large aspirating needle, no. 16 if available, and lease the needle in for deep aspirating on the way to hospital.

If out in the country and no such needle in your bag you certainly will have a scalpel and a catheter in your bag. Make an opening in an intercostal space at the posterior axillary line sixth, seventh, or eighth space (depending upon where wound or injured ribs are). Be sure to make your scalpel incision close to the upper edge of the rib to avoid injuring an intercostal vessel. Push the catheter through the opening and secure it with a safety pin. Use sterile scalpel and catheter if possible but if the situation is extreme simply immerse in alcohol and act quickly. (Again, we can treat infection but not restore life.) Then move your patient to hospital.

III. Large wounds with loss of tissue and a large opening into the pleural cavity.

These wounds are often called "sucking wounds." You are less likely to see this type of wound in civil life although they are not unusual in military medicine. However, they do occur in civil life and it could be that you might have to treat one.

The physiology in this case is that the vacuum effect of the pleural cavity is completely lost, in that the opening in the chest wall is larger than the trachea. As the inspiratory effort enlarges the chest cavity, air can more easily enter the pleural cavity through the external wound, than the lung can expand to fill the cavity, and air rushes in and out of the wound with a sucking sound. In addition to this, the mediastinum shifts toward the opposite side because a vacuum effect still exists on that side and respiration of the sound lung is embarrassed.

The treatment of this condition primarily consists in closing this large wound by the best available means. If you see the patient first at your office the best thing to do is to apply a thick heavy dressing thickly covered with sterile vaseline, boric acid ointment, or other sterile heavy ointment, the dressing extending wide of the wound edges compressed tighty with bandages and adhesive. Of course if active bleeding is present in the wound, control it before applying dressing.

If you should see this same type case out on the highway or far away from your office, you will have to make use of tools and materials at hand. Haste is essential. Use folded clean towels, folded bandage or in extremity even your own shirt folded and applied over the wound. Again the dictum: infection may be controlled, death never.

IV. Crushing wounds of the chest with multiple fractured ribs, often bilateral, with or without external communication with the pleural cavity.

This is the type of case you may be called to see at any time as result of falls or industrial accidents or highway accident. Such a case may be complicated by external or concealed intrapleural bleeding or tension pneumothorax. If so, the bleeding or the pneumothorax must be dealt with as previously described. But the physiology underlying the pathology and treatment of the crushing of the chest wall must be considered separately. In these cases when inspiratory effort is made to enlarge the chest cage instead of the lung expanding to fill the increased space, the crushed portion of the chest wall sinks inward vitiating the effort. If the loss of support is bilateral and extensive, asphyxia may occur before you reach the patient. If less severe, there is not a great deal that you can do when you arrive, comprehensive relief will require wiring of ribs to each other and to a supporting cast or frame work, a complicated surgical procedure. But in addition to treatment of pain, shock, and bleeding if present there is one thing you can do that occasionally is lifesaving. There is always severe pain with resultant muscle spasm and limitation of respiratory effort due to the pain. Much of this pain is due to movement of the multiple fractured ribs. Opiates sufficient to relieve this pain will add to the already grave respiratory difficulty. If this case is first seen at your office you can inject 5 cc. of 1 per cent procaine in the intercostal space below each broken rib and between the break and the vetebral column. In injecting keep close to the lower edge of the rib as this is where the intercostal nerve lies. I have seen this measure more than once prove sufficint to save the life of an injured man and allow him to be moved for more definitive treatment.

I wish at this point to give a brief resume of two cases which caused me to choose this subject for presentation.

CASE 1. A robust young man was injured in an auto wreck his chest striking and breaking the steering wheel. There was no external wound but he complained at once of chest pain and difficulty in breathing. He was immediately placed in auto and rushed to a physician's office six miles away. The physician examined him but considering it a surgical case sent him at once to the hospital thirty minutes away by auto. The patient expired on the way to the hospital. Autopsy showed a single fractured rib, a splinter of which had penetrated the left upper lung and allowed a tension pneumothorax. There was less than an ounce of blood in the pleural cavity. An aspirating needle would have saved this man's life.

CASE II. A robust young boy of seventeen was accidentally stabbed just below the left scapula in a scuffle with his younger brother over a pocket knife. The knife blade was only about one and a half inches long. The wound seemed minor but he became faint. A physician was called. There was no external bleeding but shock was present and signs of fluid in left pleura. The physician gave opiates and an IV of 1,000. cc. of glucose with apparent improvement. He was called back about ten hours later and found exereme shock and started the boy to hospital. He expired on the way. Autopsy showed the entire left pleural cavity filled with fluid, the mediastinum pushed far to the right. There was no wound in the lung but an intercostal vessel was severed and bleeding into the cavity from both ends of the artery.

Conclusion: Certain wounds of the chest are of an emergency character that requires active treatment **immediately** at the hands of the first physician to see the patient. Since the man who usually sees such patient first is a general practitioner, the outcome is quite frequently dependent upon what action he takes. A knowledge of the pathologic physiology of chest wounds is necessary in general practice.

Management of Cirrhosis of the Liver*

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CIRRHOSIS ACCORDING to Patek may be classified as follows:

1. Portal Cirrhosis
    1. Portal Cirrhosis
        - (a) Laennec's Cirrhosis
        - (b) Pigmentary
        - (c) Cirrhosis of hepato-lenticular degeneration
    2. Biliary Cirrhosis
        - (a) Obstructive
        - (b) Cholangiitic
    3. Coarsely Nodular Cirrhosis
    4. Congestive (Cardiac)
    5. Syphilitic Cirrhosis
    6. Zooparasitic Cirrhosis
        - (a) Distomiasis
        - (b) Schistosomiasis

Incidence and Etiology: Laennec's cirrhosis is by far the most common form and will be dealt with primarily in this discussion. It is found in two to three per cent of all autopsies in the United States and from two to ten per cent in the Orient, near East and South Africa. It occurs most often from the ages of 45 to 65 and is two to three times more frequent in men than women.

Several different agents are thought to be responsible for the condition, namely alcoholism, malaria and enteric diseases in the Orient, infectious hepatitis, nutritional deficiency and chronic poisoning by carbon tetrachloride, phosphorus and/or arsenic. More than one-half of these patients have histories of alcoholism.

Pathology: At autopsy the liver is variable in size, weighing less than fifteen hundred grams in about fifty per cent of cases. The organ is diffusely nodular and firm with a dense perilobular connective tissue, degenerative changes in the liver cells, dissociation of liver cords, and areas of regeneration as well as fatty and cellular infiltration. It is believed that necrosis of the liver cells precedes the overgrowth of connective tissue. The spleen is generally enlarged and firm and occasionally the pancreas shows a chronic interstitial fibrosis. Other abnormalities are related to obstruction of the portal venous system and include ascites, esophageal varices, mesenteric vein engorgement, congestion and edema of the intestinal wall. Also changes as a result of malnutrition, hemorrhage and infection are present.

Symptoms and Signs: In about one-third of the cases seen at autopsy the disease has been latent or unsuspected during life. Usually there is a history of chronic alcoholism and malnutrition. There may be considerable weight loss. Gradually the patient develops anorexia, and vomiting. After a few months he observes abdominal fullness, due at first to flatulence and later to ascites. At this state he usually seeks medical aid.

Signs of liver failure at this time are apparent. The patient is weak and mentally confused. He complains of thirst and abdominal discomfort, there is often a low grade fever and the sclerae are subicteric. The skin is dry, inelastic and the body hair scanty. There are prominent venules and telltale vascular spiders scattered over the head and upper body. The pulse is rapid and breathing shallow as result of increased intraabdominal pressure. Dilated collateral veins are seen over the bulging flanks of the abdomen and lower thorax. The liver, if palpable, feels firm and tender and its surface rough or serrated. The spleen is firm and easily palpable. Edema of the legs and occasionally of the scrotum may be present.

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*Presented at the Delta Medical Society, April 1952

Prognosis: Cirrhosis of the liver does not necessarily imply a poor prognosis. The disease many times may remain latent throughout life. Also the prognosis is fair in those cases which are minimal or moderate in involvement and where the process is recognized early and properly treated.

However when clinical signs of liver failure occur such as ascites and/or jaundice, the outlook is grave.

The chief causes of death in these patients are cholemia, hematemesis, and intercurrent infections.

Management: The management of cirrhosis has resolved itself into one of dietary regimen and control of the ascites, hemorrhage and edema medically or surgically. The rationale of the dietary treatment is based on the fact that in most cases of Laennec's cirrhosis there is a history of dietary deficiency, and studies on laboratory animals by a number of different workers have firmly established the concept that dietary factors play a significant part in the pathogenesis of this disease.

Patek and co-workers recently reported on the dietary management of one hundred and twenty-four cirrhotic patients who were in failure. The program of management of this group started with bed rest upon admission. With improvement the patients were allowed to be semiambulatory. Chief emphasis was placed upon the regular diet which was rich in protein and ample in carbohydrate, and 175 grams fat—a total of about 3500 calories. This diet consisted chiefly of meat, eggs, fruit, green vegetables and milk in the form of milknog served five times per day with 25 grams of yeast added. This was considered the basic diet and other foods eaten were as a matter of choice. For patients who were too ill to tolerate these foods a regimen of semisolid or liquid diet was prescribed. If the patient could not tolerate yeast, vitamin B complex was substituted. Thiamine hydrochloride (5 mg. daily) and unconcentrated liver extract (5 cc. biweekly) were given intramuscularly.

Patients with ascites were allowed fluids up to 2000 cc. daily and had a moderate restriction of salt. Paracenteses were done before patient was greatly distended, since distension greatly curtailed the appetite. Mercurials and ammonium chloride were used as diuretics. No alcohol was allowed.

Good nursing and dietetic care were of prime importance to these patients in that food itself was distasteful and to many life itself held little interest.

In patients with cholemia, slow intravenous infusions of 10 per cent dextrose with added vitamins totaling 2 to 3 liters per day were given. To each liter was added 100 to 150 milligrams of thiamine hydrochloride, 300 to 400 milligrams of nicatinamide and 100 milligrams of riboflavin. This was discontinued when the patient could take oral feedings. In many cases cholemia was precipitated by hematemesis or intercurrent infection, and in these cases the precipitating condition was treated vigorously.

Patients who developed hematemesis received whole blood transfusions until the bleeding had ceased. Food was withheld until 2 to 3 days after the bleeding and the patients infused with ten per cent dextrose in the meantime.

However the mere prescription of a diet such as the above is not sufficient, in that at least half of the cases do not respond if liver failure has taken place. A patient with cirrhosis may have severe anorexia and must be tempted with an attractive menu that is well tolerated. He may have to be fed by attendants or maintained by tube or parenteral feeding until his appetite returns. A number of observers believe that fat should be restricted in that it may be injurious to the liver. However, it has been shown in animal experiments that an adequate protein diet protects the liver from the injurious effects of fat. Patek's patients were given 175 grams of fat per day in order to insure palatability of the food and no ill effects were noted.

The history of prolonged poor food intake, together with signs suggestive of vitamin deficiency present in some cirrhotic patients, has made the addition of vitamin supplements to most treatment regimens common. However, recent work has cast doubt on the need for administration of large quantities of purified vitamins. But rather administer them in usual therapeutic doses or rely on a nutritious diet and if necessary crude food supplements may be given in addition. If the physician cannot induce the patient to eat a nutritious diet, crude food complements such as brewer's yeast, high protein milk drinks and liver products orally, intravenously may be employed. Labby and his associates reported excellent results, primarily in the form of appetite stimulation, frequently administered intravenous crude liver extract, but controls for this group were lacking and the results may not be of significance.

In the treatment of the more chronic forms of liver disease other problems are encountered, especially recurrent ascites and bleeding esophageal varices. Recently two significant developments have been added to the medical treatment of intractable ascites; the intravenous administration of concentrated human serum albumin and the provision of diets low in sodium. Thorn and co-workers observed that albumin injections in doses large enough to raise the serum albumin concentration to normal induced little more than a transient diuresis. Patek and co-workers confirmed this work. But Kunket et al reported the complete disappearance of ascites in 14 of 15 patients given albumin intravenously. As would be expected those patients with early ascites and edema responded more readily than patients with longstanding ascites and other evidences of excessive portal obstruction.

The mechanism of the inability to excrete sodium is obscure, but the therapeutic implications are obvious. The frequency of abdominal paracentesis can be reduced if the patient is maintained on low sodium diet supplemented, if desired, by ammonium chloride and mercurial diuretics. With albumin administration the best results are seen in patients with massive edema and ascites who have not required paracentesis. In the cirrhotic patient who is accumulating ascites there should be a loss of 1½ grams of sodium per day. If the intake is restricted to that amount then little fluid will accumulate according to Faloon and his associates. Patients with ascites have seldom been treated with a low salt diet in that it is extremely difficult to prepare a nutritious diet, adequate in protein, which is at the same time low in salt.

Two years ago Crosby and Cooney described what appeared to be an ideal surgical method for the relief of intractable ascites. A modified Murphy button was inserted into the abdominal wall connecting the peritoneal cavity with the subcutaneous tissues, resulting in a constant emptying of ascitic fluid into the space where it was returned to the circulation. The series was small but the results good. However in contrast others have had poor results, usually obstruction being the chief offender. Lord, one year ago, developed a modification of this procedure wherein he removed the fascia overlying the muscles in the area of the button thus exposing the lymphatic bed and increasing the rate of absorption of the ascitic fluid. If the button procedure works it has two advantages: 1) It retains valuable minerals and protein, and, 2) It reduces the number of paracenteses which are not without danger of infection and always annoying to the patient.

The efficacy of diet for the cirrhotic patient who has episodes of hematemesis has not been established. It is doubtful whether diet can alter the fibrous tissue that obtructs the hepatic circulation and shifts large amounts of portal blood from the liver into the collaterals. The control of bleeding esophageal varices is still an unsolved major problem and has been approached surgically from many angles.

Rowntree et al have controlled esophageal hemorrhage temporarily by use of an internal esophageal tamponage made of a Miller-Abbot tube and latex bag attached near the end. This bag is left in place inflated for three to four days during which time the bleeding ceases and remains at rest for varying periods of time.

Som and Garlock treated two patients with esophageal varices by doing a posterior mediastinotomy. One patient had had no bleeding in six years and the other none in fourteen months. The rationale of the treatment lies in the fact that iodioform gauze packing was left in the posterior mediastinum for eleven days and this irritation promoted granulation tissue with a new vascular network between the submucosal and periesophageal veins of the esophageal and the deeper veins of the mediastinum thus allowing a new channel of escape of the portal blood into the azygos system.

Blalock believes the most physiologic method in surgical treatment of cirrhotic patients with portal hypertension is one in which an attempt is made to anastomose the portal and caval circulations by dividing the distal end of the portal vein and anastomosing it to the side of the inferior vena cava. This procedure is considered better than the splenorenal union in that it will conduct more blood and is more apt to remain patent. The inferior vena cava does not have to be occluded during this procedure. However if a splenorenal anastomosis is performed, suture of the proximal end of the splenic vein to the side of the renal vein is preferable to an end to end anastomosis.

Other procedures enumerated below have been carried out by various groups and considered to be of little value, according to Whipple. The first of these is the splenectomy. This does diminish 40 per cent of the total portal blood supply but with removal of the spleen the large collaterals in the gastrolineal ligament that feed into the varices around the diaphragm cardia and esophagus are ligated thus diminishing the aid of the helpful collateral circulation in reducing the portal hypertension. The second procedure is to do an omentopexy thus artificially increasing the collateral circulation but the efficacy of this procedure is questionable. The third procedure is to ligate the venous tributaries feeding into the veins of the cardia and esophageal varices but this has been dissappointing. Injection and coagulation of the esophageal varices has been used. This procedure tends to close off one of the chief collaterals between the portal and systemic circuits and thereby aids in increasing the hypertension. Also efforts to anastomose branches of the mesenteric veins to the spermatic, the ovarian and the inferior cava by suture technic has failed due to the small size of the veins and frequency of thrombosis.

Therefore the role of surgery in the treatment of portal hypertension is still not established, but it seems probable that the mortality from ruptured esophageal varices may be reduced materially in the future by such surgical procedures as the portal-systemic venous anastomosis.

The Importance of Bacteriology in the Small Hospitals of Rural Areas

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The purpose of this paper is to emphasize the need for more adequate bacteriologic studies in the hospitals of rural areas, particularly in Mississippi, which state now has a number of new, well-equipped small hospitals to provide generally better medical care for its people.

The value of the science of bacteriology as an aid in the understanding of disease is unquestioned by modern physicians. The graduates of the better medical schools who enter general practice in rural areas, or specialty practice, come possessed of knowledge concerning bacteria, rickettsia and viruses, which enables them to serve their patients more effectively than could be done only a few years ago. This knowledge, however, in order to be put to its fullest use, required certain equipment and techniques which heretofore have been available only in large medical centers. Every community hospital is the medical center of that community and as such should within its means help the physicians of the area develop an adequate bacteriologic program whereby they may have as accurate knowledge as possible of the patients' disease processes when they are due to infection.

It is not good medicine to continue to rely solely upon such anti-bacterial and anti-biotic medicines as sulfonamides and penicillin for the control of infectious disease in a general way without rasonably specific knowledge concerning the exact organism involved. This is true due to several factors such as: 1) the known fact that a given organism may be more susceptible to one medicine than another, 2) a given organism may develop resistance more easily to one medicine than other, thus effecting the clinical course of the disease in the patient adversely and 3) a combination of two or more of the many available anti-biotics may be indicated in some infection whereas single agents are more effective and economical in others. Thus when the physician has available for his use a practical bacteriologic program in his hospital, he may then be able to practice a more scientific and actually more economical type of patient care.

The basis of such a program is, of course, necessarily founded upon three fundamental pre-requisites:

- a) a good laboratory—not necessarily most expensive.
- b) a well-trained laboratory technician and
- c) interested and reasonably well-informed physicians.

It is not within the scope of this paper to itemize the essentials of a good laboratory since this information is available through the United States Public Health Service, or/and good medical school, both of which sources should be consulted by both hospital administrators and physicians.

The obtaining of a laboratory technician who is as well trained as possible, should be on the "must" list of every community hospital. Occasionally one technician may be shared by several small hospitals, but all effort should be made to obtain qualified personnel. "A laboratory is only as good as the person who runs it" is a much quoted and very true statement, which should be carefully considered by every hospital administrator.

Naturally, physician-interest in the program is all important for its success. In this respect the physician must not only possess reasonable knowledge but also "sell" the program and its importance to the people he serves. In this way he will obtain the cooperation of patients and thereby make accurate, early diagnosis in their behalf.

Our program involves the use of relatively simple media and equipment which have been of great value in the proper understanding of infectious disease in a rural hospital and listed below are the various media used in studying our cases:

For culturing:

- a) pathogens of the eye, ear, nose and throat: 5 per cent dextrose agar, blood agar slants and/or plates, chocolate agar, lactose broth, Loeffler's slants and Bordet-Gengou media; penicillinase, para-aminobenzoic acid added.
- b) for blood cultures: brain-heart infusion broth, poured agar plates.
- c) for spinal fluid cultures: chocolate agar, blood agar slants and/or plates, brain-heart infusion broth; CO_2 jar.
- d) for culturing gastro-intestinal pathogens: SS agar, MacConkey's agar lead acetate slants, Russell double sugar slants for surface inoculation and "stab" culture, bismuth sulfite agar.
- e) for gonococcus infections: brain-heart infusion broth, chocolate agar, lactose broth.
- f) for urine cultures: blood agar plates.

The great majority of these media may be prepared in the laboratory and some expense may be thus saved but if the technician is not able to do this, we have found that the prepared media in tubes has given very satisfactory results. Such media are available commercially in fresh batches on order. If such a product is used, care should be taken to be sure that it is as fresh as possible and not dry. We also study the sensitivity of organisms to the various drugs now employed and this is not difficult with the use of discs containing the drug, added to the media.

Every effort is made to obtain cultures at the **bedside,** either in the home, office or hospital and this includes spinal fluid cultures. Media are inoculated **at once.** In the case of spinal fluid, this is allowed to drop directly from the spinal needle onto the culture media itself. Inoculated media are then transferred as quickly as possible to the incubator.

In this way valuable time will be saved and organisms which are often difficult to grow, such as meningococcus, may be induced to multiply. From cultural characteristics and gram stain of isolated colonies, they are identified.

The importance of such technique is difficult to over-emphasize. Many times a patient with bacterial meningitis, for example, has received a diagnostic spinal tap outside of the hospital and without a culture or smear, is then given a dose of sulfonamide or penicillin and then sent to a medical center for further diagnosis and treatment. Upon arrival he may have received enough antibiotic to suppress the growth of the organism to the point where the bacteriologist is unable to obtain growth on cultures. There is, then, little to do except treat the patient with combinations of antibiotics throughout his illness, basing all judgment upon clinical improvement alone. Such situations could be alleviated by a) more thoughtful bacteriologic approach at the time of initial examination and b) the sending of any cultures or smears, **and the spinal fluid,** along with the patient if he is transferred for specialist care for meningitis.

In pediatrics, bacteriology has proved to be of the utmost help in properly managing the patient's disease, and this is true due to the extreme severity of some infections such as suppurative otitis media and meningitis in young children.

We now follow these and other infections with a multi-drug approach for 48 hours until the nature of the infection is apparent and then continue further treatment with one drug, which is deemed the most efficacious against the organism involved. If severity of disease warrants it, on occasions two or more drugs may be continued until the clinical course of the patient indicates a cure, and the follow-up cultures are negative. Organisms which cannot be satisfactorily identified locally may be sent to central laboratories of the State Board of Health or to the nearest medical school for further study. It is far better to send a culture of growing organisms made from material obtained at the bedside than simply to send a stool or urine specimen through the mails.

The author realizes that little in the way of profound new discussion has been presented but with many new hospitals coming into existence in rural areas of the state, a plea is hereby made for practical, improved, bacteriologic techniques to be used in these institutions in order that better, more scientific medicine may be practiced for the patients' benefit.

Surgical Management of Hysterectomies*

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THERE ARE THREE well-known operative procedures for doing hysterectomy. They are abdominal subtotal hysterectomy, and vaginal hysterectomy. Each of these procedures has a definite place in that each procedure is indicated under different conditions. It behooves the surgeon to know the indications for the different procedures and to become adept in the operative technique of all of them. It is of utmost importance that the operation be fitted to the patient rather than fitting the patient to the operation.

During recent years there has been a marked trend to abdominal total hysterectomy in place of abdominal subtotal hysterectomy. The principal reason for this change has been to get rid of the cervical stump so that there would be no chance for malignancy to develop in this area. Technically, it is more difficult than subtotal hysterectomy, but under skilled hands the mortality rate is no higher. However, the occasional operator will be on much safer ground if he does the subtotal procedure. Generally speaking, total hysterectomy should be done in most cases. The principal contra-indication to total hysterectomy is fixation in the pelvis so that the tissues will not fall away from the cervix when it is being freed. Such fixation is usually caused by infection or endometriosis. The operator who attempts total hysterectomy under such conditions is running a risk of injuring the ureters, bladder, or rectum. In such cases it is wise to do the subtotal procedure. The subtotal procedure should also be done in the very young patient who has a normal cervix because the total hysterectomy may cause enough shortening of the vagina to interfere with her sexual life. However, there are some who contend that if total hysterectomy is done properly it does not shorten the vagina. This may be true, but there is no doubt that following total hysterectomy, there is some fixation of the upper vagina, which amounts to the same thing as shortening.

Hysterectomy by the vaginal route is the procedure which is most often neglected. It is a very useful procedure and in many instances it is the only procedure which will give a satisfactory end result. Its greatest advantage is that in addition to removing the uterus, associated conditions such as cystocele and rectocele which are so often present can be easily corrected at the same time. In cases of severe prolapse,it is the only procedure to use as any other procedure would probably give a poor end result. It is also less shocking than the abdominal procedure and convalescence is much smoother. In the very old and in the very fat, it can frequently be done safely where the abdominal procedure would be with grave risk.

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Vaginal hysterectomy also has its disadvantages. Technically, it is more difficult but this obstacle can be overcome with practice. Neither does it give adequate exposure in case any other abdominal pathology should need to be investigated. Pathology in the tubes and ovaries can be cared for by the vaginal route, but not with the ease and safety of the abdominal route. It is contraindicated when the uterus is fixed from inflammation of endometriosis. Neither should it be attempted if there is very much abnexal pathology or adhesions from old operations which might complicate the procedure.

A review of the hysterectomies done at the Houston Hospital for the five-year period beginning January 1, 1947 and ending December 31, 1951 showed that 283 operations had been done. There were 146 abdominal total hysterectomies, 84 abdominal subtotal hysterectomies, 43 vaginal hysterectomies and 10 cervical stump removals. The accompanying table gives a breakdown of the different procedures in each year. It shows the marked trend to total hysterectomy in place of subtotal hysterectomy which has taken place in this period. There were only 11 total hysterectomies in 1947 as compared to 40 in 1951, while there were 26 subtotal hysterectomies in 1947 as compared to only 8 in 1951.

Abdominal Total hysterectomy	11	22	47	26	40	146
Abdominal Subtotal hysterectomy	26	21	13	16	8	84
Vaginal Hysterectomy	8	14	2	7	12	43
Removal of Cervical Stump	1	2	4	1	2	10
TOTAL	46	59	66	50	62	283

There was one death in this series which gave a mortality rate of 0.35 per cent. This was in a patient who was in shock from a ruptured uterus which occurred during a normal delivery. The hysterectomy was done under conditions of extreme emergency and only because the patient was losing blood faster than it could be replaced. Death was caused by shock from hemorrhage from the ruptured uterus and rightfully should not be attributed to the hysterectomy. However, this case was included in the series because a hysterectomy was done.

In the pre-operative preparation of all the patients in this series, meticulous attention was given to the blood picture. If the blood picture was not normal, surgery was delayed until it was returned to normal. Anemia was usually corrected by whole blood transfusions and blood was always available in the bank when surgery was done. This was evidently a very important factor in producing a favorable mortality rate in this series.

SUMMARY: A simple working basis for selection of the type of operation for patients undergoing hysterectomy has been presented.

DISCUSSION

Dr. T. F. Wolford—Almost twenty-five years ago I saw the first tragedy in pelvic surgery, or in an attempt to do pelvic surgery. The surgeon lost the right uterine artery and then lost his head. The inevitable consequence was a mutilated patient who died from this "surgical procedure." During later years a great portion of my own personal surgery was the undoing of some of the surgical attempts in the pelvis, inadequately and improperly done. I still find a high percentage of our intestinal obstructions are due to adhesions to the pelvic viscera. So it is becoming apparent that the old axiom "anything goes in the pelvis" is not acceptable in the light of our modern day surgery. Almost any surgical journal carries at least one article on the needl6ess sacrifice of pelvic viscera. This is without doubt true, yet we are fast reaching the conclusion that conscientious pelvic surgery is not the restricted field that one might suppose. Rather I believe the criticism is justifiably cast on the operator, both as to judgment as to what to remove and as to how it should be removed. With the broadening of the safety factors of both anesthesia and operative procedures our results should be ever increasingly good. Yet I do not feel that this is true. We must realize that we cannot cover up poor pelvic surgery with antibiotics and estrogenic hormones. How can any normal woman be comfortable or happy with a pelvis tied down with adhesions or a vagina so short that a medium sized speculum can not be inserted its regular depth? Recently a thirty-year-old female came to our clinic, one of the most pathetic sights one can imagine. Dysmenorrhea, dyspareunia, irregular vaginal bleeding, loss of weight, and, obviously, a case for the psychiatrist. Her history was one of "pelvic surgery" six months prior, for what—she was never told. Before surgery she had a mid-menstrual discomfort in her left abdomen. After surgery she had been a cripple, both financially and physically. At operation the lower abdomen and pelvis was a mass of adhesions and all that had been accomplished previously was a left salpingectomy. If our conscience does not correct this type of thing the public certainly will.

Adequate pelvic surgery done carefully and meticulously can accomplish a great deal. Age should not be a barrier to an adequate operation. We now have almost fifty cases between the ages of nineteen and twenty-five years of age in which it was necessary to remove all the female organs, yet none of these cases have shown any psychogenic ill effects nor is a single case maritally unhappy or taking estrogenic hormones. In no instance was any normal tissue removed that would effect them adversely. Their pathological process had accomplished this prior to surgery and assurance, plus a comfortable pelvis accomplished the remainder. Had normal functioning tissue been removed certainly the results would heve been tragic. Innumerable times we have seen pelvic cripples, both physically and psychogenically, from inadequate surgery. It is my belief that the same surgery should be done in the pelvis as in the abdomen. In no case during the past twelve years have I found it necessary to leave tissue in the pelvis that had been macerated by clamps. A block dissection, carefully exposing the operative field and knowing where the vital structures are, both normal and abnormal, plus a reconstruction of the pelvic floor, being careful not to leave any raw surfaces, will certainly justify this improved technique.

It has been over five years since estrogenic hormones post-operatively have been discontinued in our total hysterectomies, (total means everything). An understanding discussion prior to surgery with an evaluation of the extraneous problems involved plus a modern concept of the physiology of the individual will certainly lessen the need for hormones and needless abdominal scars. A high percentage of our patients consulting us for pelvic complaints needs a psychiatric approach rather than the removal of normal pelvic viscera.

I do not agree that pelvic surgery is the young surgeon's field. This field should be approached with as much surgical "know how" and with as much sincerity as any other portion of the human body.

For the present, the recommended use of 'INH' is limited to the treatment of TB victims who are not responding satisfactorily to streptomycin therapy. The package labels state that it is "for use in the treatment of streptomycin-resistant tuberculosis, under close supervision of a physician." The drug 'INH' is known to have been used effectively in some cases of miliary tuberculosis and tubercular meningitis, which are frequently fatal.

The average hospital patient is recovered and back home today in half the time a similar visit would have required 20 years ago. The average length of stay at Baptist Memorial Hospital in Memphis is 7 days. Ten years ago it was 10 days. Twenty years ago you could have expected to stay for two weeks and 40 years ago a month's visit was commonplace.

1660 nurses have been graduated from the School of Nursing at Baptist Memorial Hospital in Memphis since its opening 40 years ago.

Baptist Memorial Hospital in Memphis has served over 540,000 patients since its opening in 1912.

Some Practical Points in Fluid and Electrolyte Balance*

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WITHIN RECENT years there have been outstanding changes in the opinion of the clinicians and surgeons in the evaluation of the patient as a whole, with attention to the cardiovascular status, the renal function blood volume, and fluid and electrolyte balance, and the great significance of these factors in the improved treatment of patients in acute and chronic conditions. This has been brought about by the striking developments in the research laboratories in the basic sciences. None of these accomplishments are more important than the fundamental laws that have been established governing water, electrolyte and protein metabolism in man. There are many technical difficulties involved in application of these laws to the treatment of the sick patient, but we are seeking a sound practical plan of therapeutic approach in treating these acutely ill people.

It is essential that we have information in regard to the basic biochemical and physiological functions, to understand the water and electrolyte needs of a patient. The body fluids comprise about 70 per cent of body weight. They may be divided into the intracellular part, about 50 per cent where the metabolic processes of life take place; and the extracellular portion 15 per cent lying in the interstitial spaces; constituting the stable internal environment of the cells, and 5 per cent contained within the vascular tree. The circulating plasma, through the influence of electrolytes, plasma proteins, capillary blood pressure, tissue tension, and lymphatic flow, carries the constituents of the body fluids to and from the organs which regulate exchanges with the external environment, through the kidneys, skin, gastro-intestinal tract and the lungs. Water is freely diffusible back and forth between these tissue cells and intracellular space by direct response to the osmotic forces, through the effects of the electrolytes of potassium, magnesium, phosphate and protein within the cell, and of sodium chloride and bicarbonate in the extracellular space. The proportion of balance of these electrolytes between these two main parts of the body fluids is controlled or maintained by energy derived from metabolic processes within the cells. Thus we see the complexity of the physiological chemistry of the normal human being. Any disease process that disturbs the functions of these organs, the function of circulation or cellular metabolism, produces abnormalities of body fluids.

As long as the organism lives, there is a relative loss of water which must be replaced. This has been estimated 1200 to 1500 cc. through the kidneys, and 1200 to 1500 cc. through the lungs, skin and gastro-intestinal tract. Febrile states, excessive sweating, high temperature, vomiting, diarrhea, or other abnormal conditions, variously influence the total estimate. Obviously it is not possible to acquire an exact estimate of the volume of water losses in health or diseased conditions, but considering the daily maintenance about 2600 cc; this can form the groundwork for calculations of body water replacement. A reliable check upon a reasonable estimate for water demands is generally provided by the amount of urine excreted. If during the course of the first 24 hours of treatment the urinary output totals 1200 to 1800 cc., reasonable assurance is provided that water demands are being met. There is a relationship between water and electrolyte balance. This does not imply a proper fluid balance insures electrolyte balance. As the amount of water is increased, the loss of electrolytes is increased by kidney excretion, sweating or fistula drainage.

Electrolytes are compounds capable of dissociation or ionizing in solution into two or more statically charged fragments or ions, either the positively charged cations or basic ions, or the negatively charged anions or acid ions. The concentration of the positively charged ions must equal the negatively charged ions to have electro chemical neutrality. The human body maintains a fairly constant electrolyte balance and it is very necessary and important to maintain this fluid and electrolyte balance, in the treatment of ill patients. Under normal conditions electrolytes are taken into the body in the food and largely excreted in the urine. The daily requirement of sodium chloride varies 4 to 10 grams. Three to six grams are excreted in the urine and one to two grams in sweat and stool. Potassium intake varies from 1 to 8 grams daily and is principally excreted in the urine. The normal kidney is able to conserve sodium chloride when the body is threatened with a deficit, but unable to conserve potassium. Sodium is found principally in extracellular fluid, while potassium is found in intracellular muscle, liver and other tissue cells.

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*Presented at the Delta Medical Society, April 1952

The only available method of estimation of electrolytes is through study of the blood plasma. The blood chemistry values of the CO_2 combining power of the plasma, the serum chloride content, the serum sodium content, the serum potassium content, gives valuable information necessary to approximate the electrolyte needs. The normal body electrolyte concentration values for the important cations and anions, both extracellular and intracellular have been given us. This is given in milliequivalents per liter. The milliequivalent is the amount of an element or ion which will combine with, or be equivalent in chemical combining power to 1/1000 of a gram atom of hydrogen.

Comparing the laboratory findings with normal values, approximating the physiological water loss and taking into consideration the body water components, along with the cardiac, circulatory, and renal status; methods are available for fairly well estimating amounts of water and electrolytes needed in depleted or abnormal patients. From available data at present time, sodium chloride, potassium and bicarbonate are the electrolytes most significant from the standpoint of deficiency and treatment. On many occasions all three of these electrolytes may be depleted simultaneously in the ill patient, so it must be appreciated that dosage must be accurate, because too much electrolyte is about as harmful as too little.

For the treatment of sodium chloride depletion in patients, from vomiting, excessive sweating, gastro-intestinal decompression, etc., where there is no marked depression of kidney function, the use of normal saline solution, with or without 5 per cent glucose is usually adequate.

After major operations for the first 24 hours there is a marked kidney depression and saline solution is not indicated, glucose and water may serve better. If gastro-intestinal decompression is being carried out saline may be indicated to replace this loss which is estimated about 5 grams per 1000 cc. of fluid. If the patient is in normal state of hydration indicated by normal urinary output, and still vomiting or has gastro-intestinal decompression, hypertonic saline solution may be indicated to replace the saline deficiency. On the other hand in cardiac disease we may have a normal serum sodium with a depletion of serum chloride. The administration of sodium chloride to this patient may be very damaging. Here ammonium chloride administered by mouth or intravenously will supply the chloride deficiency without adding more sodium.

Most patients with marked dehydration due to diarrhea, vomiting or other cause will have a deficiency of potassium as well as sodium chloride. This will show a depletion within the cell usually before we have a serum depletion, and as potassium is essential for normal cell metabolism we may have marked toxic symptoms developed. The daily maintenance dose of potassium is estimated about 3 grams, but in excessive or abnormal loss of fluid, in addition to urinary output, more than 500 cc. daily; more potassium may be needed to replace the deficiency. Potassium administration is dangerous in acute or chronic renal disease, it can be damaging to the heart. It should not be administered during the first 24 hours following surgery on account of the deficiency of kidney excretion. The best way to replace potassium is to get the patient back on food.

The CO_2 content in the serum tells something of the factors involved in a change in the bicarbonate concentration; in other words, metabolic acidosis or alkalosis. The carbon dioxide contained in serum is in two important physiological forms of undessicated carbonic acid H_2CO_3 and dessicated bicarbonate ion HCO_3. These two substances along with serum proteins form the main buffer system of body fluids, and determine the hydrogen ion concentration or pH. This is necessary to know in disturbances of acid base equilibrium. An elevated CO_2 content usually means that the bicarbonate concentration of the serum is increased, for most of the serum CO_2 is made up of bicarbonate. This constitutes a primary metabolic disturbance, loss of other anions in relation to base, as in excessive vomiting, renal excretion of chloride which occurs in intracellular sodium excess and potassium deficiency, producing a metabolic alkalosis. Decrease of total CO_2 content indicates a lowered concentration of bicarbonate, and thus we have an increase of other anions and a decrease of base, or metabolic acidosis. The treatment of these conditions depends upon the symptoms presented by the patient, the physiological functionings of his organs and the laboratory findings in serum examinations.

Conclusions.

Fluid and electrolytes are of grave importance in the proper treatment of acutely ill patients. The average daily water requirements are about 2600 cubic centimeters. This is always disturbed in patients with pathologic physiology of the disease. The electrolytes of greatest importance from a diagnostic and clinical value are serum sodium chloride, carbon dioxide and potassium. These chemical diagnostic and therapeutic aids can be of tremendous help to the practicing physician if he will endeavor to master certain basic chemical and physiologic concepts.

The brevity of time allowed in this discussion obviously precludes any clarity of this subject, but if I have been able to confuse you, and excite you to study the available literature, and familiarize yourself with this very important subject, then I feel I have been justified in imposing myself upon your time today.

CASE REPORT

Robert H. Brumfield, M.D.
McComb, Mississippi

Dear Fellow Doctors: In 1944 my favorite dog was stricken with an illness that a veterinarian diagnosed as dumb rabies. As I watched the progress of the disease in my dog, I became convinced that the dog had the same symptoms that in a human would be diagnosed as bulbar type of anterior poliomyelitis. This stimulated me to study the comparative pathological findings in rabies and polio and I found them to be the same.

Believing polio to be nothing but an attenuated virus of the rabies family, I began in 1945 giving intradermal injections of 0.2cc. rabies vaccine with an annual booster dose. To date, I have given the rabies vaccine to 1728 children and young adults and none has developed polio. Of course this is a small number when one considers the whole population and the incidence of polio. Of course, I have not, and could not, fulfill Koch's Postulates and would not attempt it even if I could. However, I am convinced that polio is a form of rabies virus that affects humans and perhaps some laboratory monkeys.

You are told not to give immunizing shots during a season in which polio is prevalent, but you are not told why. I'll tell you why—the virus is on the skin and when you give a "shot" you plant it and it develops polio. I do not believe in controls being used in this as the measles globulin was recently used in Houston, Texas. If I can convince ONE doctor in each county that he should give this prophylaxis, I feel my mission will have been fulfilled.

Please remember that Edward Jenner discovered that cowpox, a disease of cows, could be inoculated into humans and prevent smallpox, but his publication of this great discovery was refused by the Royal Society because its publication might injure the credit Jenner had secured for himself in 1778 by winning the fellowship of the Royal Society through his essay on the history of the cuckoo.

Three out of every four babies born in the U. S. arrive in hospitals, to which health leaders attribute in large measure the steady decline in deaths among newborn.

A colorful playroom, complete with hobby horse, games and books helps to entertain little convalescent patients in the children's ward at Baptist Memorial Hospital in Memphis.

The Mississippi Doctor

The journal with a vision which encourages a plan of delivering modern medicine to the masses at less cost to the individual and more profit to the practitioner. It champions the community hospital, the hub around which this service must be built.

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Editorials

THE REFERENDUM

Members of the medical profession have asserted themselves in an effective manner as voting citizens within the last few years. Their influence against regimentation in medicine anticipated a fine service to the people. The time has come when every person of voting age must meet the issues of the day and shoulder responsibilites. Mississippi will have an election important to all on August 26—whether it is better to have prohibition in our state or to do away with it.

We hear many good men say, "We will vote wet for the first time. We need the revenue and we want to do away with bootlegging". Noble enough if true, but it is not. Legalizing whiskey increases bootlegging and decreases tax income by causing more whiskey to be consumed as a beverage, thereby cheapening human values. In 1951 agents in Alabama filed suits against bootleggers as follows: 20 wet counties 2254 cases, 47 dry counties 2933 cases, only 62.2 per cent as many cases in the dry counties as in the wets. The whiskey interests admit that the only way to do away with bootlegging is to take all the tax off whiskey. Massachusetts made some observations on drunkenness: The cost of illness caused or precipitated, $4,000,000; cost of crime due to inebriety, $6,000,000; cost of financial dependence, $51,000,000, or a total of $61,000,000 charged to whiskey. Taxes received $13,139,266. This tells the story as it has been and will be when people consume whiskey as a beverage. So when a man votes wet to do away with bootlegging he is not availing himself of the facts at hand. And instead of gaining taxes a state loses by cheapening its manpower, by lowering its mental and physical efficiency, with multiplied costs in illness, absenteeism and crime.

The advertisers of whiskey like to use layouts of big executives well dressed sitting around a mahogany table graced by expensive accessories. This picture is false. The real top executives do not consume whiskey as a beverage, the figures give only three per cent who ever become alcoholics. We never heard of the Mayos consuming whiskey as a beverage. A truer picture than the mahogany table and roses would be that of a pine coffin,a tattered woman and poorly nourished children turning away.

Gambling, whiskey, and tobacco are costing this country fifty billion dollars per year, ten times as much as all sickness, ten times as much as we pay to all education, and fifty times as much as we pay to all churches. And up to date the world has never produced enough bread to feed the hungry of the world.

In 1948 there were 3,952 alcoholics per 100,000 population, but in dry Mississippi only 1,960, less than one half the national average. Legal whiskey is advertised whiskey. The whiskey advertising bill is now estimated at a hundred million dollars in this country. In 1933 213, 022, 151 gallons were consumed, in 1951 2,910,821,295. Ten years ago it was estimated that we had 40 million people drinking whiskey, but now sixty-five million. In the mother state of Virginia arrests for liquor violations in this legalized state increased from 1,902 in 1943 to 50, 637 in 1949. And a twenty-four per cent increase in jail commitments for drunken driving occurred in the first nine months of 1951.

Alcoholism is the major public health problem in the United States now. Mississippi has next to the lowest rate of alcoholism in this country. Roger Babson points out that the social use of liquor drives out family prayers, church attendance, Sunday observance, charities and kindliness, blights character and retards spiritual forces. General MacArthur urges that spiritual forces must be utilized to secure peace, security and happiness. Alcohol retards mental reaction ten per cent and lowers mental and physical efficiency and endurance. The drinking man is not suited to operate fine machinery. The cost of illness from alcohol, the loss of time, the loss of human life and the destruction of machinery along with the lowering of human efficiency in general is a bigger burden than our human society can carry and go forward.

Whiskey as a beverage is causing half the accidental deaths on the highways, half the murders, half the divorces, and half the suicides. Whiskey is the master promoter of sadness and sorrow and grief and poverty. Its consumption as a beverage is incompatible with the machine age in which we live. Some say we can not enforce prohibition. Maybe not. We still have crime, but it is illegal. Whiskey causes half the murders, but we would not repeal the law against murder. The government enforces tax laws. It enforces draft laws. Narcotic laws are enforced pretty well. We do not let up on them.

Mississippi is one of the two dry states left. The eyes of the nation are upon us. We trust that our state will continue to dare to be different as did Daniel of old. We had rather have the smile of approval from a man like Roger Babson as to hear the howl of a million defeatists who cry for more tax money.

We trust that the profession of medicine will think honestly, and vote wisely in the coming election. The march of civilization is at stake. We want no regimentation in medicine, we want no enslaving of the mind and the body by alcohol. Legalized whiskey means more bootlegging and less income to the state. It means the cheapening of our human assets. Its increased consumption as a beverage means the backward march of civilization rather than the forward. Don't vote to put whiskey on the main street; let it remain in the gutters, where it puts humanity.

News and Comment

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(1952-1953 appointments, one-third of committee *T. E. Ross, Hattiesburg, R. B. Zeller, Hazlehurst, C. E. Catchings, Woodville.

Charity Hospital: *Guy T. Vise, Meridian, Mayo Flynt, Meridian, J. A. K. Birchett, Vicksburg, O. P. Myers, Jackson.

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* Denotes chairman indicated by President

DR. LITTLE HONORED BY ICRR

An octogenarian still practicing, a member of the Fifty-Year Club and a past-president of the Mississippi State Medical Association, Dr. W. L. Little of Wesson was recently awarded a 14-karat gold plaque upon becoming a fifty-year veteran with the Illinois Central Railroad System in the capacity of local physician, at a meeting of the Half-Century ICRR Club at the Palmer House in Chicago. Dr. Little, accompanied by Dr. and Mrs. A. H. Little of Oxford, writes of the trip as follows:

"All I.C.R.R. 50-year veterans were asked before leaving home on the Panama, June 25, 1952, to get off the train in Jackson and join those waiting, that the picture of all could be taken. This picture appeared in the Clarion-Ledger of Jackson, June 29.

"We all had cards of introduction and badges that had been sent us to use on the trip.

"The train crew gave us all possible courtesies, including breakfast, which President Wayne A. Johnston had provided for us veterans.

"We were met in Chicago at the Illinois Central Station by a courteous committee and taken to the Palmer House, where we were again escorted to our rooms. We were told Chicago is on daylight saving time and to get ready for the party.

"At eleven o'clock we were guided to our parlors, the roll call of the veterans called and all given numbers and places or tables to be seated.

"We then were guided to a larger room where the sixty veterans were seated at two long tables all facing the front, while the 450 companions and friends were seated at designated tables around the room. A number of veterans of former years were honored by being called by the year in which they became veterans.

"A magnificent lunch was served, when the president of the Illinois Central began presenting the 14-K gold plaque to each veteran and giving a short history of his past life with a personal reference of some kind in connection with his work.

"My first case of surgery was related. It was recounted how a crippled boy of 14 years hobbled out to the barnyard on crutches and noticed an old gander which had a broken wing due to a combat with another gander. He was standing off from the others when the flock was fed. Lee, as he was known to all his father's trusted colored servants, caught the gander. With his help the broken wing was removed, the bleeding stopped, wound dressed, and in a few days the old gander was again in the front line. Many of the honors paid to me during the past were mentioned.

"My wife, Mrs. W. L. Little, did not feel strong enough for the trip so I was accompanied by my son, Dr. A. H. Little, and his wife who went as my guests.

"This was one of the best and most enjoyable trips of my life, and should cause us not to fear old age."

Dr. and Mrs. Little are planning to celebrate their sixtieth wedding anniversary on September 28 at the Wesson home.

POLIO SHOWING SHARP INCREASE IN STATE

A Maxwell Field airplane rushed an iron lung from Montgomery to Vicksburg early in July in response to an emergency call from the Lutheran Hospital. Two more respirators were en route from Boston, Mass., to Vicksburg for use in the Lutheran and Mercy hospitals' nine respirator cases.

The Mississippi State Board of Health reported 196 cases of polio as of July 10 as compared with 80 cases on this date in 1951. The Polio Treatment Center at Vicksburg advised that ninety patients are hospitalized there.

In response to increasing patient care need, V. T. Anthony, state representative for the Polio Foundation, announced that Dr. Jerome Bernstein, pediatric resident from Washington D. C., assumed duty at Mercy Hospital. Mrs. Helen Kane, polio nursing consultant, and Miss Lucy Blair, physical therapist consultant, of New York City, came also to the state, to advise with Polio Foundation, hospital, and health officials as to patient care needs for polio victims.

Faced with the highest incidence of polio experienced in Mississippi this early in the year, the State Polio Planning Committee held its annual meeting in Vicksburg, July 8. The committee reelected Dr. Felix J. Underwood as chairman and V. T. Anthony as secretary. Other members of the executive committee include, Dr. Lamar Arrington, president of the Mississippi State Medical Association; Dr. A. L. Gray, director of Division of Preventable Disease Control, State Board of Health, and Dr. W. E. Noblin, director of Crippled Children's Service. The committee is made up of representatives of health and welfare groups.

To meet the high cost of patient care, the National Foundation has sent $112,850.00 to 26 Mississippi counties in the past 90 days. Counties receiving March of Dimes advances since July 1 are:

Sunflower	$9,000
Panola	1,500
Sharkey-Issaquena	500
Webster	500
Yazoo	3,200

Mississippi spent nearly a million dollars in March of Dimes money on polio cases in the three-year period from 1949 to 1952.

VAN METER PRIZE AWARD

The American Goiter Association again offers the Van Meter Prize Award of three hundred dollars and two honorable mentions for the best essays submitted concerning original work on problems related to the thyroid gland. The award will be made at the annual meeting of the Association, which will be held in Chicago, Illinois, May 7, 8 and 9, 1953, providing essays of sufficient merit are presented in competition.

The competing essays may cover either clinical or research investigations; should not exceed three thousand words in length; must be presented in English; and a typewritten double-spaced copy in duplicate sent to the corresponding secretary, Dr. George C. Shivers, 100 East Saint Vrain Street, Colorado Springs, Colorado, not later than February 15, 1953.

ISSAQUENA-SHARKEY-WARREN SOCIETY

Two special presentation ceremonies highlighted the business portion of the July 8 meeting of the Issaquena-Sharkey-Warren Medical Society in Vicksburg.

Mississippi State Medical Association President Lamar Arrington presented the Street Clinic with a gold medal, the Scientific Exhibit Award, for the best such exhibit at the recent eighty-fourth annual meeting. Dr. A. Street received the medal for the clinic.

A Fifty-Year Club certificate and lapel pin were presented to Dr. F. Michael Smith, Vicksburg, by Dr. Felix J. Underwood. Dr. Smith has recently observed his golden anniversary as a physician.

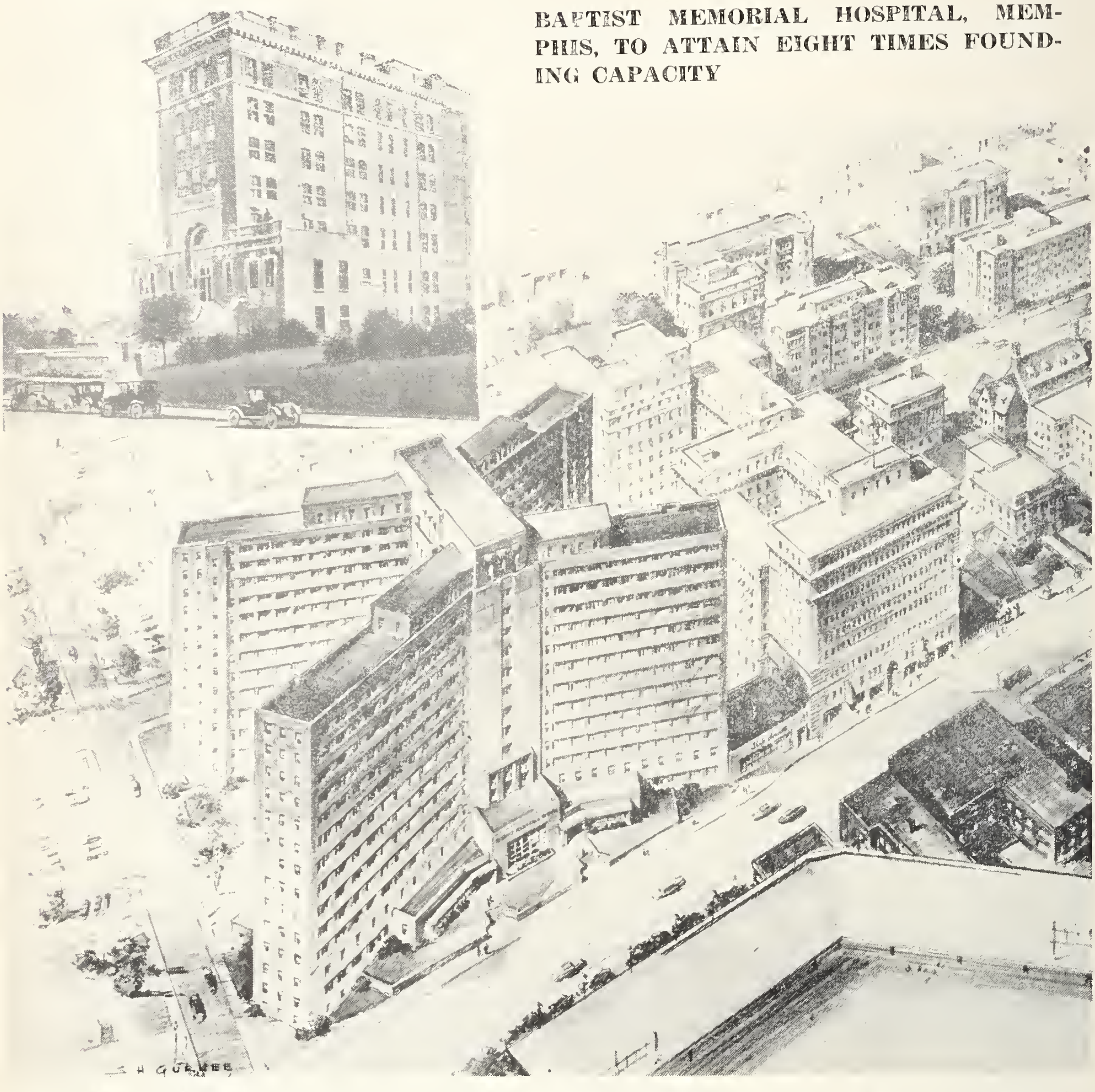
The society met at the Old Southern Tea Room where dinner was served and the business meeting and scientific program were held.

Dr. Donald T. Imrie, Vicksburg orthopedist, was the essayist.

Dr. J. M. Moore, society vice-president, presided. Dr. W. K. Purks is secretary.

Visitors and guests included Dr. Arrington, Dr. Underwood, and Rowland B. Kennedy, Mississippi State Medical Association Executive Secretary.

BAPTIST MEMORIAL HOSPITAL, MEMPHIS, TO ATTAIN EIGHT TIMES FOUNDING CAPACITY



HOSPITAL OF THE FUTURE. Construction is soon to begin on this new $5½ million addition to Baptist Memorial Hospital in Memphis. When completed it will increase the hospital's capacity to 750 beds. Founded in 1912, Baptist Memorial Hospital observed its fortieth anniversary during the week of July 13-20. Insert: In 1912 Baptist Memorial Hospital in Memphis opened with a capacity of 100 beds. The South's largest private hospital, with a present capacity of 515 beds, celebrated the fortieth anniversary of its founding during the week of July 13-20.

BAPTIST MEMORIAL HOSPITAL

The celebration of the fortieth anniversary of the Baptist Memorial Hospital in Memphis was a wonderful occasion. It opened with a hundred beds, at one time had only 30 patients, and 20 were charity, but now it has

500, will soon have more than 800 beds with other space in proportion. It is the largest Baptist Hospital in the world. It is located in a great city, loved and appreciateed by the entire Southland. The hospital now takes care of 2000 patients per month, operating at 98 per cent capacity. It employs 810 people, has about 300 student nurses and does $300,000 free service each year. It has a great vision for the future. It has behind it a great medical staff, by its side a great medical school, and at its head the ablest hospital administrator perhaps in this nation. The service of this hospital is to be known and felt around the world.

The National Association for Music Therapy will hold its third annual meeting in Topeka, Kansas, October 30, 31 and November 1, 1952, in the Hotel Kansan. Applications for active, associate, or student membership may be made to Mrs. H. Dierks, 5050 Oak Street, Kansas City 2, Missouri. Members of the medical or musical professions, who are not members may attend meetings by paying a registration fee of $5.00.

At the recent convention of the American Medical Association, visiting physicians made thousands of taste tests of cookies into which there had been baked a mixture of unflavored and finely ground sodium-removing resins. The doctors approved the medicated cookies for taste; many believe they compared favorably with grandma's best. Cookies are but one foodstuff into which the housewife may blend this new form of an already established agent which removes excess sodium from the bodies of patients who suffer from heart disease, cirrhosis of the liver, edema of pregnancy, or hypertension. Fruit juices, milk, fudge, cake and flavored gelatin are some of the other nutriments which will hold and disguise the new medication. Now patients with excessive sodium retention can actually enjoy taking a medicine which allows other items in their diet to be seasoned more liberally and tastefully with once-forbidden salt. Eli Lilly and Company will supply physicians with books of various kitchen-tested recipes which may be given to patients.

Following its debut at the A. M. A. convention, 'Carbo-Reson' Sodium Removing Resins, (Lilly), Unflavored, has been placed on the prescription market.

Announcement

Frank Ward Smythe, M. D., announces the association of Frank Ward Smythe, Jr., M. D. in the practice of surgery and radium therapy. Physicians and Surgeons Building, 899 Madison Avenue, Memphis 3, Tennessee.

John C. Flaniken, M. D., announces the opening of his offices in association with Dan C. Gary, M. D., Thirty-six South Bellevue Avenue, Memphis, Tennessee. Practice limited to diagnostic and therapeutic radiology.

ADOPT PLANKS ON HEALTH

You will note the planks in both the G. O. P. and the Democratic platforms relative to regimentation in medicine. The G. O. P. seems stronger than the Democratic, but it would seem encouraging that both have taken the stand they have. Even so we can not let up on the educational program the American Medical Association is sponsoring.

DEMOCRATIC PLANK

We will continue to work for better health for every American, especially our children. We pledge continued and wholehearted support for the campaign that modern medicine is waging against mental illness, cancer, heart disease and other diseases.

Research: We favor continued and vigorous support, from private and public sources, of research into the causes, prevention and cure of disease.

Medical Education: We advocate federal aid for medical education to help overcome the growing shortages of doctors, nurses, and other trained health personnel.

Hospital and Health Centers: We pledge continued support for federal aid to hospital construction. We pledge increased federal aid to promote public health thru preventive programs and health services, especially in rural areas.

Cost of Medical Care: We also advocate a resolute attack on the heavy financial hazard of serious illness. We recognize that the costs of modern medical care have grown to be prohibitive for many millions of people. We commend President Truman for establishing the non-partisan commission on the health needs of the nation to seek an acceptable solution of this urgent problem.

—National Platform of the Democratic Convention

G. O. P. PLANK

"We recognize that the health of our people as well as their proper medical care cannot be maintained if subject to federal bureaucratic dictation. There should be a just division of responsibility between government, the physician, the voluntary health insurance. We are opposed to federal compulsory health insurance with its crushing cost, wasteful inefficiency, bureaucratic dead weight, and debased standards of medical care. We shall support those health activities by government which stimulates the development of adequate hospital services wihout federal interference in local administration. We favor support of scientific research. We pledge our continuous encouragement of improved methods of assuring health protection.

"The tradition of popular education, tax supported and free to all, is strong with our people. The responsibility for sustaining this system of popular education has always rested upon the local communities and the states. We subscribe fully to this principle."

'INH' (Isoniazed, Lilly) is the most recent addition to promising new anti-TB drugs which have been released for treatment of selected tuberculous cases under close medical supervision. 'INH' is also known as isonicotinic acid hydrazide.

Deaths

DR. WADE H. HORTON

Dr. Wade Hampton Horton, Sr., 75, died at the Baptist Hospital in Jackson after several days illness.

He made his home at 565 Northside Drive East. He was a member of the Masonic Lodge, was a Shriner, was also a member of the American Medical Association and was associated with the National Optical Company of Jackson.

Dr. Horton had lived in Jackson for 24 years, coming there from DeRidder, La., where he was a practicing physician for 20 years. A native of Huntington, Tenn., he formerly resided in Calhoun County, Miss. He was a graduate of Mississippi College and of the University of Tennessee Medical School.

For several years he was a professor of bacteriology at Tulane University.

Survivors include his wife, Mrs. Malvina McNeely Horton, Jackson, one son, Wade H. Horton, Jr.; Ft. Worth Texas; one daughter, Mrs. Eugene B. Davis, Jackson; two grandchildren Adelia Ann and Vina Blue Davis, of Jackson; three sisters, Mrs. Hiram Creekmoore, Jackson; Mrs. Mary Lee Cowart. Briston, Okla., Mrs. Jesse Kirk, Tulsa; Okla.

DR. CAMELLUS O. BUCK

Dr. Camellus Oscar Buck died at the home of his daughter July 17 after a long illness. He was 83. Services were held at the home of his son in the old Buck residence at 5 p.m. Friday with the Rev. R. G. Winter officiating.

Born in Holmes County, he attended the Lexington schools and received his degree in medicine at Vanderbilt University at Nashville. After being graduated he returned to Lexington and began practice. He married Agnes L. Daugherty of Walls, Miss., who died nine years ago.

Dr. Buck was a Methodist.

He leaves his son, Oscar Buck, and a daughter. Mrs. J. G. Roberson, both of Lexington; two grandsons, Capt. C. W. Buck, stationed in Korea, and J. B. Robertson of Hattiesburg, Miss., and a granddaughter, Mrs. H. H. Lynes of Memphis.

DR. ABNER JONES BARNETT

Final rites for Dr. Abner Jones Barnett. 60. conducted June 24 from Wright Ferguson chapel. with Dr. R. B. Gunter and Dr. Hewitt officiating: He died suddenly about noon June 22 at the VA hospital, following a heart attack at his home on the VA hospital grounds.

Dr. Barnett was born in Leake County. Standing Pine community, son of the late Mr. and Mrs. O. H. Barnett, Sr. He graduated from the University of Tennessee in 1917 and served in World War 1

Following his discharge from the Army he practiced medicine in Walnut Grove until 1929, when he entered government hospital service, preforming tours of duty at government and VA hospitals in Los Angeles, Dayton, Ohio, St. Petersburg, Fla. and Jackson. He returned to Jackson in 1947 to join the VA staff and was head of the out-patient division. He was a member of the Baptist church.

Survivors include his wife, Mrs. Lucille Kelly Barnett, of Jackson; one daughter, Mrs. Gene Could, Boston, Mass.; one sister, Mrs. T. C. Brooks, Carthage, five brothers, T. J., L., Bryan; and J. H: Barnett, all of Carthage, and J. H. Barnett of Tuscola.

His five brothers and his brother-in-law, Dr. Carlton Kelly of Walnut Grove, served as his pallbearers. in accordance with the old custom of the Barnett family.

DR. JOHN S. LOCKE

Services were held for Dr. John Samuel Locke at the Clear Creek Baptist Church on July 25 with the Rev. Robert Martin officiating.

Dr. Locke, who was 80, was born in Lafayette County and spent all of his life in the Burgess and College Hill communities.

He lived in College Hill for the past 31 years. He died at his home there. He was a physician in Lafayette County for 15 years. He was a deacon in Clear Creek Church.

He leaves his wife, Mrs. Leona Holcomb Locke; one daughter, Mrs. A. J. Meredith of Hazlehurst; three sons, Byron Locke, Audre Locke and Hosey Locke, all of Oxford; and one brother, N. L. Locke of Batesville, Miss.

DR. JOSEPH H. DAMPEER

Services for Dr. Joseph Hughston Dampeer, who died June 12 following a heart attack, were held from the Presbyterian Church. Dr. Charles McCain, pastor, officiated. Dr. Dampeer was 66.

Born in Wesson, Dr. Dampeer was the son of the late J. D. and Laura Cook Dampeer. He received his education at Vanderbilt University and Tulane and practiced medicine for a number of years at Peoria, Miss., in Amite County. He was retired and worked part-time as a pharmacist at drugstores throughout the state. During the war Dr. Dampeer assisted the late Dr. John B. Howell as Denkman Lumber Co. physician there. After the war, he returned to his job as pharmacist at Edwards Drug Store.

He leaves his wife, Mrs. Kathryn Garrett Dampeer, of New Orleans, and one sister, Mrs. T. K. Newman, of Lake Charles, La.

INTERPRETING MEDICAL LITERATURE

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson
Otolaryngology—Charles R. Hume
Opthalmology—Edley Jones, Vicksburg
Obstetrics and Gynecology—J. F. Lucas, Greenwood
Orthopedics—Thomas H. Blake, Jackson
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Radiology and Roentgenology—Karl O. Stingily, Meridian
V. A. Pathology—H. N. Naumann, Jackson
Surgery—W. H. Parsons, Vicksburg
Urology—Temple Ainsworth, Jackson

PEDIATRICS

INFECTIOUS DISEASE, ACUTE—Fatal Herpes Simplex Infection in a Newborn Infant. J. J. Quilligan, Jr. and J. L. Wilson, Ann Arbor, Mich. J. Lab. & Clin. Med. 38:742-46, November 1951.

A newborn infant is described who first exhibited some erythematous vesicular lesions over the anterior thorax on the seventh day of life. Despite sulfadiazine ointment, the lesions became more numerous. On the ninth day, lethargy, respiratory distress, cyanosis, and convulsive movements of both arms and legs were noted. Fever developed late. The trunk lesions became coalescent with a central zone of whitish-gray necrotic material surrounded by a thin rim of erythematous skin. The vesicular lesions also grew larger, and became purulent. The blood and urine showed no changes except proteinuria. Encephalitic symptoms appeared, and progressed to severe convulsions and opisthotonos. The cerebrospinal fluid seemed normal on routine examination. Death occurred five days after the onset of clinical signs. Blood cultures on the second and last day of illness were negative, as were bacteriologic cultures of the vesicle fluid. No lesions were noted in the mouth.

The infant's mother exhibited a small vesicular lesion on the inner surface of the upper lip nine days ante partum. In the following three days these progressed to involve the gums and tip of the tongue as well as the entire lower lip. At the time of birth a few lesions still persisted on the lower lip, and the gums were painful. No genital lesions were apparent.

A strain of herpes simplex virus was isolated from antemortem skin and postmortem skin and liver. The liver showed numerous macroscopic lesions but also areas of focal necrosis with little cellular inflammatory reaction. The hepatic cells showed acidophilic intranuclear inclusions surrounded by a clear zone with margination of the chromatin. Antemortem and postmortem skin scrapings and postmortem liver, when inoculated into rabbit's eyes, produced keratitis and encephalitis typical of herpes. It is assumed that the vesicular gingivostomatitis in the infant's mother, occurring in the immediate antepartum period, represented the source of infection in her infant.

COMMENT:

This is a very interesting and instructive article of this subject. It has been my privilege to have known both of these authors quite some time. What they say on this subject can be relied upon to be accurate and fundamentally correct. It has been my practice for a number of years in all cases of herpes, as well as impetigo or severe cases of chicken-pox to administer penicillin or a mixture of penicillin and streptomycin in these cases.

INTERNATIONAL COLLEGE OF SURGEONS

The seventeenth annual assembly of the United States and Canadian Chapters of the International College of Surgeons will be held in the Conrad Hilton Hotel, Chicago, September 2-3-4-5.

The Right Hon. Lord Thomas Horder, G.C.V.O., M.D., F.R.C.P., F.R.C.S., extra physician to Queen Elizabeth, chairman of the Fellowship for Freedom in Medicine, and member of the Council of the British Medical Association, will be the speaker at the Convocation. His subject will be "Freedom in Medicine."

Another outstanding British surgeon, Mr. Arthur Dickson Wright, F.R.C.S. member of the Council of the Royal College of Surgeons, will be the speaker at the annual banquet in the Conrad Hilton, September 4.

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Constitutional Variations of Adolescent Development*

Lawson Wilkins, M. D.
Baltimore, Md.

In recent years there have been remarkable advances in the knowledge concerning the endocrine system and the influence of hormones upon various metabolic processes and upon the growth and development of the body. With the increased interest in endocrinology and the availability of potent hormones, it is important to remember that variations from the normal pattern of somatic or sexual development frequently are due to genetic and extrinsic factors rather than to hormonal influences. Deviations from the norms of sexual development may be caused by genetic or constitutional differences either in the sex organs themselves or in the pattern of the endocrine system which regulates them. Furthermore, during adolescence there is a profound transition and readjustment in the activities of the endocrine glands. During this time transient hormonal unbalances are not uncommon and usually correct themselves without treatment. It is important that these constitutional variations and temporary maladjustments of adolescence be distinguished from true disorders and defects of the endocrine glands. In the latter hormonal therapy or extirpation of neoplasms may be indicated; but treatment is often unnecessary and at times may be harmful in some of the constitutional variations of adolescence.

The initiation of the changes which occur at puberty depends upon the secretion and release by the pituitary of gonadotropic hormones, which are not secreted in detectable amounts before this time. It is not known what is responsible for the onset of this new activity of the pituitary. Under the influence of gonadotropic stimulation the ovaries or the testes begin to mature and secrete the sex hormones which in turn cause development of the various sex organs. Androgen, derived from the adrenals in females or from the testes and adrenals in males, is responsible also for increased protein anabolism which causes accelerated growth and muscular development during adolescence. The orderly development and functioning of the pituitary—gonadal—adrenal mechanism is essential for the completion of normal sexual maturation with ovulation or spermatogenesis. Differences in the time of onset of pituitary activity and in the amounts of various hormones secreted account for the wide range of variation in the time and pattern of adolescence in both sexes. Failure to realize that these variations are not abnormal often causes needless anxiety. Some of the constitutional variations of adolescence are listed here:

Delayed adolescence
Obesity during adolescence
Gynecomastia in adolescent boys
Premature development of breasts in girls
Premature development of sexual hair
Menstrual irregularities
The "constitutional" type of sexual precosity

Delayed adolescence: Extensive studies have made it clear that in entirely normal males and females the first signs of puberty may appear at any time between the ages of 9 and 17 years. In children who have a late onset of sexual development there is also delay in the adolescent spurt of growth. Because of the short stature, lack of secondary sexual development and emotional immaturity, there is a marked contrast between children with late adolescence and others of the same age who have begun to mature earlier. Parents, school nurses and physicians often fail to realize that these differences are merely constitutional variations and think that there is some serious "glandular disorder" which demands treatment. Frequently when the child is taken to the physician careful examination reveals early signs of beginning puberty. In other cases watchful waiting may be necessary to exclude a pituitary or gonadal defect. It is most important that the anxious parents and the bewildered patient be reassured that late adolescence is not uncommon or abnormal.

In most cases hormonal therapy is not indicated and may even perpetuate the belief that the patient was not normal. With careful explanation and reassurance the family is

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†Associated Professor of Pediatrics, Johns Hopkins University Medical School

*Delivered before the sixty-third annual session of the Mid-South Postgraduate Medical Assembly, Memphis, Tenn., Feb. 1952.

usually content to wait a while longer for nature to take its course. Sometimes, however, in boys of 14-17 years, when the small stature and sexual infantilism constitute a serious handicap in athletic and social life leading to psychologic inferiority, treatment with **chorionic gonadotropin** (1000 R. U. 2 or 3 times a week) either with or without small doses of methyltestosterone (10 or 20 mg. per day) may be very desirable. It should be explained carefully to the patient that he would mature normally without therapy and that treatment is given, not because there is a glandular defect, but merely to accelerate a process of nature.

In girls, chorionic gonadotropin which has an action resembling that of luteinizing hormone, has little influence on the maturation of the ovary and the secretion of estrogen and may even have a harmful effect. Although some development of secondary sex characteristics and even withdrawal menstrual bleeding may be brought about by the administration of estrogens, with or without progestogens, it should be remembered that prolonged or extensive treatment with these sex hormones may inhibit the pituitary. As a rule it is best not to attempt to accelerate adolescence in females. Persistent sexual infantilism due to true defects of the pituitary or ovaries, demands treatment as described elsewhere.[1]

Obesity during adolescence: Unfortunately many physicians as well as laymen persist in attempting to attribute obesity to endocrine disorders; and diagnoses of 'hypothyroidism", "Froehlich's Syndrome" or "pituitary dysfunction" often are made incorrectly. Actually nearly all cases of obesity are due to excessive dietary intake or to constitutional factors related to appetite or sedentary habits. The fat often begins to accumulate in earlier childhood, but attracts more attention in adolescence. The obese children are usually taller than the average and frequently develop sexually at a fairly early age. However, they are sometimes short, and adolescence may be delayed. Hypothyroid children are scarcely ever obese although they may be overweight and flabby due to myxedematous deposits. They usually have poor appetites and are stunted in growth and delayed in osseous and other development. They have pale color and impaired circulation. The patient described by Froehlich was only moderately obese and had a suprasellar cyst causing bitemporal hemianopsia, diabetes insipidus and sexual infantilism. Although hypothalamic lesions occasionally cause polyphagia and obesity, the diagnosis of Froehlich's syndrome or "hypothalamic obesity" can be established only by finding signs characteristic of this lesion. Cushing's syndrome causes a round, plethoric "moon face" but rarely great excess of weight. It is quite rare in children and is accompanied by stunted rather than excessive growth. Its diagnosis depends upon the finding of a combination of characteristic signs such as a diabetic glucose tolerance curve, hypertension, osteoporosis, plethora, hirsutism, acne and ecchymoses.

In short, the patients showing marked obesity in childhood or adolescence rarely ever have any endocrine or hypothalmic disorder. The type of fat distribution is of no diagnostic significance. No endocrine therapy is indicated or effectual. Reduction in weight can be accomplished only by marked decrease in food intake. Calculated low-calorie, high-protein diets are usually necessary. The absolute cooperation of the child and parents is essential. In obtaining this the psychologic approach and interest of the physician and dietitian are important.

Gynecomastia in Adolescent Boys: This condition should be distinguished from the marked fat padding which frequently simulates breasts in obese individuals. A slight degree of true hyperplasia of mammary tissue occurs in a large percentage of boys during adolescence. More marked breast development is not uncommon. The condition may be bilateral or unilateral. It is usually transient, disappearing after a year or two, but sometimes it persists for many years. The cause of adolescent gynecomastia is not clearly understood. It should not be considered evidence of "feminity"; in fact it is often seen in boys who are virilizing rapidly. It is so common that it should not cause concern if the patient is healthy and is otherwise showing normal sexual development. Hormonal therapy, and particularly testosterone preparations, should not be given. In fact, both testosterone and chorionic gonadotropin may cause gynecomastia. Surgical removal of the breasts should be considered only when the hyperplasia is very marked and persistent and causes the patient a great deal of disturbance psychologically.

Premature Development of Breasts in Girls: Development of the breasts without other signs of sexual maturation is not uncommon at any time during infancy and childhood and is not related to the hyperplasia which occurs frequently during the neonatal period. The enlargement is usually bilateral, but sometimes is unilateral. Although the breasts are usually small, at times they attain considerable size. Frequently the condition is transient but it may persist for months or years. It can be distinguished from beginning true sexual precocity by the fact that the labia minora, vagina and uterus do not enlarge and the vaginal smear remains of infantile type. No treatment is indicated.

Premature Development of Sexual Hair: Occasionally pubic and axillary hair appears in young children, especially girls, without the development of any other secondary sexual characteristics. The absence of breast, labial or vaginal development distinguishes this condition from true sexual precocity. In older females such atypical development might arouse the suspicion of ovarian agenesis. In young children adrenal hyperplasia or tumor might be suspected. It can be distinguished from hyperdrenocorticism by the fact that the clitoris is not enlarged, there is no progressive virilization and the 17 ketosteroid excretion is little if any elevated above the normal for the age. The condition is entirely harmless and no treatment is indicated. The patients eventually go into normal puberty at about the average time.

Menstrual Irregularities: The occurrence of regular ovulatory menstrual cycles depends upon the functioning of a complicated pituitary-ovarian mechanism responsible for the periodic secretion of a number of hormones in varying amounts. During the transition period of adolescence one would expect that there might be temporary imbalances or variations in the amounts of hormones produced, accounting for irregularities of menstruation and anovulatory cycles during the first months or years after the menarche. The administration of sex hormones or of gonadotropins during this time may lead to inhibition of their endogenous secretion and might interfere with the normal maturation of the hormonal cycles. In the present incomplete state of our knowledge it would seem unwise to give hormones promiscuously. When irregularities persist or cause severe disturbances, hormonal treatment may be of value, but should be undertaken only by a gynecologist who is familiar with the endocrine problems and is capable of making a thorough diagnostic study.

The "Constitutional" versus Other Types of Sexual Precocity: Just as consitutional differences in the timing of the gonadotropic activity of the pituitary may account for the late onset of adolescence in some patients, unusually early activity may cause "constitutional sexual precocity" in other children who have no organic endocrine disorder. The possibility that an obscure hypothalmic lesion may be responsible for activating the pituitary must always be considered in such cases. Sexual precocity of pituitary or hypothalmic origin must be distinguished from that caused by granulosa cell tumors of the ovaries in females or interstitial cell tumors or hyperadrenocorticism in males. In the former conditions, the patient's gonads mature normally, gametogenesis occurs and the sex hormones increase only to adolescent or normal adult levels. With gonadal tumors and adrenal tumor or hyperplasia there is excessive secretion of sex hormones and the normal maturation of the patient's gonads is inhibited. The studies necessary to establish a diagnosis are discussed elsewhere[2]. There is no treatment for the constitutional type of sexual precocity. Brain tumors and neoplasms of the gonads or adrenals may be amenable to surgery. Adrenal hyperplasia may be controlled by cortisone therapy[3].

Differentiation of Constitutionally Delayed Adolescence and Sexual Infantilism of Organic Origin. As previously pointed out, during the early years of adolescence it may be impossible to determine whether the absence of sexual development is a constitutional delay in the onset of puberty or is due to a true defect of the pituitary or gonads. Persistence of sexual infantilism points to a true endocrinopathy. The differentiation between pituitary and ovarian defects depends largely upon bioassays of gonadotropins (follicle stimulating hormone) in the patient's urine. With pituitary disorders there is deficient secretion of gonadotropin and the hormones are not found in the urine. When there is primarily a defect of the ovaries or testes, pituitary gonadotropin secretion is increased and excessive amounts are found in the urine. The diagnosis and treatment of these conditions is discussed elsewhere.

REFERENCES

1. Wilkins, L.; The Diagnosis and Treatment of Endocrine Disorders in Childhood and Adolescence. C. C. Thomas, Publisher, Springfield, Ill., 1950 Chapter XI Sexual Infantilism and Chapter IX Variations in the pattern of Adolescent Development..
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3. Wilkins, L.; Lewis, R. A.; Klein, R.; Gardner, L. I.; Crigler, J. L.; Jr.; Rosenberg, E.; and Migeon, C. J.; Treatment of Congenital Adrenal Hyperplasia with Cortisone, J. Clin. Endocrinol. 11:1, 1951.

Use and Abuse of ACTH and Cortisone in the Treatment of Allergic Conditions

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Background

Ever since Bordley, Randolph, et al., first reported the striking improvement of ACTH and cortisone upon certain allergic diseases, it has become apparent that a wide variation in individual response may be anticipated in allergic-type reactions. A dramatic improvement may occur in some instances, while other similar cases are not benefited. This discrepancy stems from the fact that we do not as yet completely understand the basic mechanisms by which increased adrenal cortical function influences allergic reactions. A more complete understanding of these basic principles is therefore required, before the indications for this type of therapy and limitations of their usefulness are definitely established.

Experimental

Since one is dealing with the hypersensitive state in which it is presumed an antigen-antibody mechanism is involved, it is important to know the effects of increased adrenal cortical function on the immune responses of the body. Experimentally, the adrenal cortical stimulants do not prevent histamine shock induced in guinea pigs, nor will they prevent the Arthus reaction, passively induced. However, Germanth and Ottinger have shown that large necrotic skin reactions following a period of sensitization with intracutaneous injections of egg albumin can be prevented in rabbits by cortisone and to lesser extent by ACTH. These authors concluded that the inhibitory effect of these drugs on the development of the Arthus phenomenon results from their ability to suppress antibody formation. In some experiments antibody titer has been elevated, in others, no change in the appearance time or quantity of antibody has been noted.

In humans, the usual skin manifestations associated with the allergic state have been unaffected by the use of these drugs. Immediate whealing skin responses to histamine, or specific antigens, and passive transfer sensitization are not affected, nor is the reagin titer of the blood of allergic patients significantly changed. In some instances tuberculin reactions and delayed bacterial skin responses are reduced or obliterated. The result of all these experimental studies shows that there is considerable variance amongst them, and that greater clarification is necessary before we can fully understand the effects of these drugs on the immune responses of the body.

Mechanism of Action

The action of the adrenal cortical stimulants, and the role of the adrenals in the immune mechanism has been consistently a matter for speculation. White has presented experimental evidence to show that there is a possible relationship between tissue permeability and these drugs, which might operate in the allergic state. As applied to bronchial asthma, he suggested that permeability of the connective tissue barrier was inhibited under the influence of ACTH and cortisone. The work of Samter also seems to support this view, which further suggests that these drugs, through the release of corticosteroids from the adrenals, alters the mesenchyme of the bronchial shock tissue, rendering it less vulnerable to specific and nonspecific agents. The similarity in action in the allergic state between fever and these drugs, suggests a homeostatic mechanism, rather than a drug-like action. The studies of Herschfus indicate that the relief obtained in bronchial asthma through ACTH, does not depend on any anti-histaminic or anticholinergic action. This would show that the blocking action of ACTH depends on an entirely different mechanism from the usual anti-histamines and anti-cholinergens employed to date in the treatment of allergies. As has been stated above, the usual skin tests, both direct and indirect, have been unaffected in allergic patients who have been successfully treated with ACTH. Histological study of the allergic wheals revealed the most consistent finding to be an eosinophilia in the exudate, which, however, following treatment with ACTH was reduced along with the blood eosinophiles.

In Summary

These drugs appear capable of intervening in the acute and chronic manifestations of hypersensitivity of body cells to bacterial and nonbacterial substances. They inhibit the altered reactions of cells probably at the mesenchymal level, rather than inhibit any of the direct toxic effects of the sensitizing agents themselves. The exact mechanism of this action is still not understood.

The allergic conditions which have responded to the use of these drugs are: bronchial asthma, hay fever, atopic eczema, contact dermatitis, urticaria, angio-neurotic edema, and some drug reactions. The effect of ACTH and cortisone on the so-called "collagen diseases" which are closely related to hypersensitivity, as Rich and his co-workers have shown, will not be discussed in this paper.

Bronchial Asthma

All cases were in severe status asthmaticus and were either treated as hospital or as ambulatory patients. Those hospitalized were given either ACTH or cortisone by injection after a preliminary period during which symptomatic measures were used. These included aminophylline, intravenous fluids, epinephrine, iodides, helium and oxygen inhalations. All had daily blood eosinophile count, and the usual laboratory tests. Diets low in sodium with supplements of potassium salts were given. All had daily weights and blood pressures recorded on their chart.

It was very difficult to evaluate the results of ACTH and cortisone therapy, because of the beneficial effect of the hospitalization itself combined with symptomatic treatment. It is a well-known fact that every asthmatic improves on hospitalization, just as every toothache will improve in the dentist's reception room. Alteration of environmental factors, and relief of marked apprehension may contribute to the patient's improvement. However, the effects of hormone therapy in certain cases were often so prompt and dramatic, that there was little doubt of its ability to ameliorate the asthma condition. Of ten patients so treated with ACTH, six obtained marked improvement after twenty-four hours, and had a complete remission at the end of the fifth day. Moderate improvement was noted in two patients, and in two remaining cases there was no benefit at all. The initial daily dose of ACTH was 25 mg., every 6 hrs. which was reduced after several days depending on clinical response.

The periods of remission in eight cases who were benefited lasted from seven to twenty-three days, and the severity of asthma which recurred was at least equivalent to the original symptoms. There appeared to be no direct relationship between the total amount of ACTH administered and the clinical results obtained, or to the duration of the remissions. Administration of 25 mg. ACTH two or three times weekly in two patients after hospitalization did not prevent recurrences. (See Table 1).

Eleven patients were hospitalized for treatment with cortisone by injection. The immediate favorable response which occurred from the use of cortisone was slower than that observed following ACTH. In four patients, definite subjective and objective improvement was present after three days of therapy progressing

Case	Ages	Sex	Duration of Asthma -years	Etiologic Factors	ACTH Total Dose -mg.	ACTH Days of Therapy	Clinical Effort	Remission -days
1	65	F	15	E & I	700	12	Good	23
2	55	M	15	E & I	690	12	Good	21
3	52	M	14	E & I	600	6	Poor	—
4	50	F	25	E & I	615	10	Good	7.
5	52	F	2	I	870	13	Poor	—
6	49	F	15	E & I	710	13	Fair	12
7,	32	M	25	E	700	11	Good	14
8	27	F	21	E	620	10	Good	19
9	26	F	16		680	10		15
10	63	M	30	E & I	620	12	Fair	7

*E - Extrinsic
1 - Intrinsic

Table 1- The effect of an initial course of ACTH in Cases of bronchial Asthma — Friedlaender A. S. and Friendlaender . —

Case	Age	Sex	Duration of Asthma -years	Etiologic Factors	Cortisone Total Dose mg.	Days of Therapy	Clinical Effort	Remission —days
1	65	F	15	E & I	1200	10	Good	7
2	55	M	15	E & I	1300	11	Good	14
3	52	M	14	E & I	1450	13	Fair	42
4	30	F	25	E & I	1100	11	Good	16
5	52	F	2	I	1450	13	Poor	—
6	49	F	15	E & I	2225	16	Fair	7
17	32	M	22	E	1300	12	Poor	—
18	47	M	30	E & I	1400	15	Good	36
19	50	M	25	E	1200	10	Fair	17
20	32	F	16	E & I		11	Fair	12
21						12	Poor	—

*E—Extrinsic 1—Intrinsic

Table II —The effect of an intitial course of parenteral cortisone in bronchial asthma - Friedlaender A. S. and Friedlaender S.

to complete remission at the end of six days of treatment. The asthma in four other patients was favorably affected but not completely relieved. The remaining three patients were not benefited by such therapy. Three patients who attained a complete remission were given no further injections after discharge, in all of whom there was a recurrence of asthma seven to sixteen days later. In four patients who were given a maintenance dose of 25 mg. of cortisone twice weekly following hospital treatment, severe symptoms recurred fourteen to forty-two days later. It appeared that the remission in two of these cases may have been prolonged by continuation of small amounts after the original intensive course. The initial dose of cortisone was 100 mg. every 8 hrs. for three doses, followed by 100 mg. every twelve hours for three to eight days depending on clinical response, then progressively reduced. (See Table II)

EFFECT IN AMBULATORY PATIENTS

Twenty patients with severe asthma were given cortisone by oral administration, in the form of 25 or 50 mg. tablets every four to eight hours. Thirteen were promptly and completely relieved, three were benefited to a lesser degree, while four were unimproved. The period of hormone administration ranged from six to eighteen days with an average of ten days of treatment. The total dose for a single course averaged around 1,000 mg. The remissions which occurred were generally of short duration, symptoms often recurring within a few days after withdrawal. Other than this, it was felt that oral cortisone was just as effective in producing dramatic improvement as cortisone by injection in bronchial asthma, but that neither was as effective as ACTH.

HAY FEVER

All were cases of ragweed sensitivity who were treated either with ACTH or cortisone as hospital or ambulatory patients. Those selected had not received adequate preseasonal desensitization and were still having trouble with active hay fever when the ragweed season started. All symptoms were correlated with pollen counts in the atmosphere and comparisons made with adequate controls. The results of this study are shown in Table III.

TREATMENT OF OTHER ALLERGIC CONDITIONS

ATOPIC DERMATITIS

Seven young adults with extensive eczematous eruptions, which had been present for periods ranging from nine months to eighteen years, were given oral cortisone while ambulatory. Two were markedly benefited, three others showed limited improvement, while in two patients the dermatitis was unaffected by such therapy. The courses of treatment ranged from six to sixteen days, with total doses of 600 to 1,500 mg. being given. In those who were benefited, recurrence of the dermatitis was noted within a few days after cortisone was stopped. (Table IV)

CONTACT DERMATITIS

Two patients with acute eczematous lesions, both sensitive to hair lacquer, received oral cortisone 50 mg. every 6 hours. In both, the dermatitis cleared up while under therapy, but recurred soon after cortisone was stopped. (Table IV)

URTICARIA AND ANGIONEUROTIC EDEMA

Two patients with severe serum-sickness type of reaction following penicillin, were given cortisone orally in daily amounts of 150 to 200 mg. In one patient, a remission was produced after three days. The other relapsed four days after therapy was discontinued. Two

Hormone	Route	Initial Daily Dose	Ambulant or Hospital	No. of Cases	RESULTS Good	Fair	Poor
Acth	Intramusc	100 mg.	Hosp.	3	3	0	14
Acth	Intramusc	100 mg.	Amb.	16	1	0	0
Cortisone	Intramusc	25 mg.	Amb.	5	1	1	2
Cortisone	Oral	150 mg.	Amb.	8	6	2	2

Table III- Effect of Acth and Corisone in Hay Fever Friedlaender A. S., and Friedlaender, S.

Condition	Hormone	Route	Ambulant of Hospital	No. Cases	RESULTS Good	Fair	Poor
Atopic Dermatitis	Acth	I. M.	Hosp.	2	0	2	0
	Cortisone	I. M.	Hosp.	2	0	1	1
Contact Dermatitis	Cortisone	Oral	Amb.	7	2	3	2
	Cortisone	Oral	Amb.	2	1	1	0
Urticaria and A-G Edema	Acth	I. M.	Hosp.	1	0	0	1
	Cortisone	Oral	Amb.	4	2	2	0

Table IV- Effect of ACTH and Codtisone in other Allergic Diseases

patients with chronic urticaria of many months duration were relieved by taking 100 to 200 mg. cortisone daily. However, when the daily dose was reduced below 100 mg. the symptoms recurred. A fifth patient with acute urticaria and A-G-edema following use of a hair dressing preparation, not only did not respond to ACTH but symptoms of general pruritus seemed to increase and further injections were refused. (Table IV)

EOSINOPHILIC RESPONSE IN HAY FEVER AND ASTHMA

A fall in the level of blood eosinophils is considered to be a sensitive gauge of increased adrenal cortical function. In this series, the total blood eosinophils were determined before treatment and at daily intervals afterwards in hospitalized patients. The maximum fall in eosinophils in those receiving ACTH occurred between the second and sixth day, in those treated with cortisone, between third and eleventh day. This fall averaged over 80 per cent in all patients who were completely relieved of symptoms. In those who were moderately helped or not benefited, the fall in eosinophils was from 75 to 94 per cent. That there was no constant relationship between the level of eosinophilic response and the clinical effects obtained is clearly shown. Some, whose symptoms failed to improve with ACTH or cortisone showed a very marked depression, while others who were greatly helped showed only a slight fall in eosinophils. (Table V)

Reactions

The usual metabolic alterations encountered in this series treated with ACTH and cortisone were salt and water retention, despite low sodium intake. Gain in weight from four to eight pounds was noted, with edema developing in a number of patients. There were no significant changes in blood sugar, sodium, potassium or chlorides. Hormonal effects associated with adrenal cortical stimulation such

Case	Condition	TOTAL BLOOD EOSINOPHILS PER CUMM. Before Treatment	Max. Fall	Day of Max. Fall	Per Cent Change	Clinical Effect
1	Asthma	2300	363	6	-84	Good
		621	118	4	-81	Good
		1618	243	5	-85	Good
2	Asthma	872	50	3	-82	Good
3	Asthma	898	67	3	-93	Good
4		1138	925	2	-10	Poor
5	Asthma	1600	1040	4	-40	Poor
6	Asthma	436	95	2	-78	Good
7	Asthma	1906	125	4	-94	Poor
8	Asthma	1585	305	4	-81	Fair
9	Asthma	1176	66	4	-94	Good
10		127	33	3	-74	Fair
11	Hay Fever	400	88	4	-78	Good
12	Hay Fever	985	200	3	-80	Good
13	Hay Fever	1176	77	3	-94	Good

Table V- Effect of Intensive Administration of Acth on blood eosinophil levi]s Friedlaender, A. S. and Friedlaender, S.

as mild acne and menstrual disturbances were seen frequently, but in all cases disappeared after withdrawal of ACTH or cortisone. These are the usual effects, considered more or less physiological, following this type of treatment, with which most of us have become familiar. However, a number of effects of a deleterious nature have recently been reported, with which we are all not so familiar, and which we would do well to emphasize.

1. **Psychic effects** such as increased mental stimulation, euphoria, and mild depression were frequently noted. One patient developed a frank psychosis which required transfer to a mental hospital and shock treatment. Another case is reported of suicide in a patient who had no previous mental difficulties. Both these cases followed the use of cortisone, and it is important to bear in mind that these drugs should be used cautiously or not at all in patients who have had previous mental aberrations.

2. **Bacterial Infections.** Not all cases of bronchial asthma were favorably influenced by this type of therapy, and some have been made worse. In this study, it was found that patients under treatment with ACTH and cortisone were more susceptible to intercurrent infections, and that flareups of latent infections were common. In these cases, the infectious complications were controlled by adequate antibiotic therapy.

3. **Adrenal Insufficiency.** Symptoms of excessive weakness and fatigue were noted in several asthmatic patients, after the sudden withdrawal of cortisone. In one patient ACTH was promptly started, but the patient died several days later following a series of severe asthmatic paroxysms. The same symptoms were noted following the use of oral cortisone, and it should be emphasized that patients so treated, should be kept under observation for at least two weeks, until normal adrenal function returns.

4. **Allergy to ACTH.** That sensitivity to repeated injections of ACTH may develop in the form of hives, and anaphylactoid reactions, had been recently noted. The presence of sensitizing antibodies to ACTH has also been demonstrated. It has been pointed out that 25 mg. of ACTH, represents an enormous amount in terms of protein antigen.

CONCLUSIONS AND SUMMARY

1. ACTH and cortisone are powerful drugs and must be used only with full understanding of their physiology and indications for their use.

2. The changes which take place under the influence of increased adrenal cortical function are of a temporary nature, and there appears to be no alteration of the underlying disease process.

3. The beneficial effect of these drugs in allergy seems to be upon the acute hypersensitive state, viz, status asthmaticus, penicillin and other reactions, and possibly hay fever where the season is short.

4. In chronic states, they may alleviate severe symptoms for a sufficient period of time, so that conventional allergic methods might be employed to control the underlying disease process.

5. It should be re-emphasized that ACTH and cortisone should not be the first approach to asthma, hay fever or acute sensitivity reactions.

6. In the majority of cases, competent allergic study and management are much more rational procedures and should precede any hormone therapy.

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The Unpredictable Nature of Coronary Artery Disease
Pitfalls in Diagnosis and Treatment*

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The UNPREDICTABLE nature of disease of the coronary artery system begins with the uncertainty of who will be the next victim and when it will strike its deadly blow. This has been ably presented in a recent article termed "Who Is Next in Myocardial Infarction". Almost every day we see a report in the newspaper where an individual thought to be in excellent health died suddenly from a heart attack. Further investigation often reveals that the person stricken had been seen only a few days previously for a check-up by his physician and found to be in good health. In many instances that individual did have some indefinite symptoms as restlessness, dizziness, slight numbness in the head or arm, or mild discomfort in the chest or neck. We must keep in mind premonitory anginal discomfort or so-called pilot pains. There is often a reason for a busy man to take time off and come to the doctor for a check up. All of these vague and deceivingly minor symptoms must be evaluated carefully. All studies including an electrocardiogram may have been normal. All symptoms must be weighed carefully so that more can be gleaned from a long and more careful history. In an investigation of twelve cases of sudden death not one had received an exercise tolerance electro-cardiographic test, a procedure that will often bring to light existing pathology of coronary artery deficiency and fertile soil for the precipitation of an acute myocardial infarction.

Why one individual and not another develops atherosclerosis of the coronary arteries remains to be determined. Many, if not most, of the facts in regard to the physiopathology of myocardial infarction are obscure. The following statement by H. L. Blumgart in the Bulletin of the New York Academy of Medicine, December 1951, is worthy of repetition. "Complete occlusion or considerable narrowing of one or more coronary arteries may exist without giving rise to any clinical signs or symptoms and without having produced myocardial damage. The apparent inconsistency between the presence of longstanding obstructive arterial lesions and the absence of significant pathologic or clinical evidence of myocardial damage is dispelled by the demonstration of a collateral circulation which serves as a bypass in relation to obstruction in each of these hearts. In angina pectoris, coronary failure and acute myocardial infarction the underlying mechanism seems to be a relative disproportion between the requirements of the heart for blood and the supply through the coronary arteries. The changes in the myocardium resulting from this disproportion depend solely on the extent and duration of the relative ischemia and not on the manner in which they are produced. The absolute necessity for immediate and complete bed rest, sedation, reduction of excessively high cardiac rates and other measures designed to reduce the work of the heart in the presence of prolonged cardiac pain is emphasized as means of limiting the extent of myocardial necrosis or even preventing its development. Such a regimen also affords an opportunity for the development of a more adequate collateral circulation. Similar considerations would seemingly apply to patients in whom angina pectoris suddenly appears or when the frequency or intensity of the attacks suddenly increases."

Possibly an individual could be carried on for a few weeks or months, or even a year with less effort, mental and emotional as well as physical, in order to allow sufficient time for the development of adequate collateral circulation and thus avoid impending myocardial damage or threatening myocardial infarction. Exactly how long it would take for the development of adequate collateral circulation remains to be determined.

Medicine has progressed to a magnificent degree of specificity in etiology, diagnosis and treatment. No longer is an attack of acute chest pain labeled acute indigestion, but one must think of myocardial infarction, pulmonary infarct, diaphragmatic hernia, acute pericarditis, acute pleuritis, epidemic pleurodynia, gall stones, herniated intervertebral disc, arthritis of the cervical or dorsal spine and that old sneak, herpes zoster. Whether shingles may occur without vesicles is open to question. However, in many instances the pain will precede vesiculation by several days and the presence of vesicles may be transient and completely missed by the less careful observer. The pain of herpes zoster is usually relieved by 1 cc. of protamide intramuscularly and this is sometimes of diagnostic value. Many times the diagnosis of coronary thrombosis can be made with ease at the bedside, but there are many others when it taxes the utmost skill and judgment of the physician. Then one must resort to careful serial electro-cardiographic study.

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*Read before the Central Medical Society, Jackson, Miss.

If one is cognizant of its limitations the electrocardiogram is a highly accurate laboratory test, possibly surpassed only by the Wassermann reaction in accuracy. We believe that it is fundamental to take multiple precordial leads in addition to the standard limb leads. This should include all of the precordial leads V1 through V6, and in special instances further exploration around the lateral and posterior chest. It is very little additional trouble to take all six precordial leads rather than two or three and the difference will sometimes enable one to establish an earlier exact diagnosis. I do not wish to argue the merits of the V leads over the CF or DR as neither is satisfactory. However, it is our opinion that the former gives a less distorted tracing. This may be of some value in searching for early R wave changes. There is a common conception among the lay and also among many physicians that a normal electrocardiogram means no disease of the heart. Both you and I know that there are many forms of heart disease with normal electrocardiograms. It should be common knowledge that serial electrocardiograms must be normal to exclude a recent myocardial infarction. Frequently it will take a week to show specific changes and in some instances ten days to two weeks. In most cases one may take a serial study over a period of one week with a reasonable degree of confidence. If clinical symptoms are strongly suggestive a longer period is indicated. Assuming the cardiogram was taken properly, one must review early cardiographic changes with caution such as slightly prolonged P-R interval, slight elevation of the ST segment, and absence of the R wave in any of the precordial leads. Poor contact of the electrodes with the skin and misapplication of the electrodes has many times led to incorrect diagnoses and injustice to the patient.

CASE 1. RH, Forty-five-year-old store clerk was suddenly seized with severe pain over the xiphoid area of the sternum with radiation around both costal margins. Morphine was required frequently for relief. He continued to experience bouts of pain everyday although cardiograms were normal on daily tracings for nine days. On the ninth day typical changes of a posterior myocardial infarction appeared.

CASE 2. A 56-year-old woman experienced increasingly severe sensation of choking described as feeling as if she had a rope around the neck. At the end of this period she was seen by her family physician who found the electrocardiogram to be normal. Three days later she was seen in the out-patient department where the cardiogram showed typical changes of an anterior myocardial infarction.

CASE 3. 73-year-old farmer reported to his physician because of some discomfort in epigastrium and lower chest. Electrocardiogram was normal and symptoms attributed to gas. Seven days later he came to the hospital because of a continuation of moderate distress and electrocardiogram showed typical changes of recent anterior myocardial infarction. On the sixth hospital day he developed an arterial occlusion of the popliteal artery despite the use of heparin and dicoumarol. A midthigh amputation was performed under spinal anesthesia. On the twelfth hospital day he showed signs of early congestive heart failure and responded to digitalis and thiomerin. This patient was a diabetic requiring 40 units of insulin daily. One year later he is alive and free of anginal distress. Maintenance digitalis and weekly injections of thiomerin are required.

CASE 4. 47-year-old man experienced sudden onset of severe pain in left elbow and shoulder. He was admitted to the hospital as having probable coronary thrombosis. Electrocardiograms on the first and third day were normal except for a questionable prolongation of the P-R interval. There was some question as to acute arthritis of the elbow. Electrocardiograms on the fifth day showed typical changes of anterior myocardial infarction. On the sixth day he developed ventricular tachycardia which was abated by the use of quinidine. On the twelfth day he developed an embolus of the left leg with the line of demarcation a few inches below the inguinal ligament. Amputation was performed under spinal anesthesia and the embolus aspirated from the proximal end of the femoral artery. Patient is alive two years later and free of any anginal distress.

CASE 5. 65-year-old lady had been in her usual state of health until one week previously she began to experience considerable exertional dyspnoea which was attributed to asthma. At the time of admission there were a considerable number of rales present in the chest and the patient treated for congestive heart failure. Further interrogation revealed that there had been some chest pain during the week but none severe. On the first day in the hospital (eighth day of illness) the cardiogram showed no change except a low T-wave in Lead 1. Two days later typical changes of anterior myocardial infarction were present.

CASE 6. 45-year-old insurance salesman, with hypertension of ten years duration, experienced moderate pain in the neck, left shoulder and arm. Electrocardiogram the following day and again three days later showed no specific changes. This patient came to the hospital after one week ambulatory when the cardiogram showed typical changes of anterior myocardial infarction.

While an invested T-wave in Lead III alone is not indicative of heart disease, a change from an upright to an inverted T-wave or vice versa in this lead must be reviewed with caution.

CASE 7. MAR. GH. 50-year-old man was brought to the hospital because of severe epigastric pain which was relieved with morphine. The following day he was free of symptoms and signs. The electrocardiogram showed an inverted T-wave in Lead III and later investigation showed that it had previously been upright. The following day he expired.

CASE 8. 57-year-old veterinarian had a myocardial infarction five years previously and again developed moderate pain in the retrosternal area. The only electocardiographic change from previous tracings which appeared one week later was the change from an inverted T-wave in Lead III to an upright wave. The following day he expired.

Our conclusion is that in any case of unexplained chest pain any electrocardiographic change from the normal must be reviewed with caution and is an indication for careful serial tracings. It goes without saying that exercise tolerance and anoxemic tests are contraindicated at this time. The unipolar limb leads are of some value, particularly in interpreting early Q-wave changes. It has been my experience that one should not lay too much stress on Q-wave changes.

Do not be misled by the age factor. While coronary artery disturbances are most commonly a disease of the fourth, fifth, and sixth decade, it has been often reported in the third and occasionally in the latter part of the second decade of life. Autopsy showed coronary thrombosis to be the cause of death in a boy aged nine who had marked hypercholesterolosis.

I am sure that all of you have definite opinions in regard to treatment. Perhaps by an exchange of these thoughts we can gain additional benefit for the patient. Complete bed rest in the hospital for four weeks is essential. Certainly for the first week or ten days there must be an absolute minimum of muscular activity. A quiet, efficient, special nurse is highly desirable and may mean the difference between success and failure in treatment. One should always be obtained when the economic situation permits.

We do have very positive opinions in regard to adequate sedation, anticoagulation therapy, and the liberal use of oxygen. When an individual is suffering from the intense pain of myocardial necrosis, it is an absolute necessity to relieve the pain as promptly as possible to prevent a spread of the area of necrosis. If necessary, resort to the intravenous use of narcotics. For routine use, we prefer demerol as it seems to have less side reactions and perhaps a little more somnolent quality. There is always the question of smooth muscle spasm from morphine. One must always inquire carefully as to previous use of the drug of choice to avoid if possible undesirable side effects as vomiting, itching, bladder spasm and respiratory depression. Bladder spasm in a patient with a urethral stricture creates a real problem. If intravenous use is necessary, I prefer morphine gr. 1/8 given slowly, always by the doctor and repeated as often as necessary to obtain relief. This is no time for conservative dosage as adequate prompt relief may be a life-saving measure. Of course reasonable caution and good judgment is a requisite.

Case 9. SEH GA, 69-year-old man was admitted to the hospital because of severe retrosternal pain. Initial pain was relieved by demerol 2 cc. intramuscularly. Two hours later he began to experience intense pain and 1 cc. of demerol was given, intravenously. One half hour later the pain again recurred and the patient appeared to be going into shock. Morphine gr. $\frac{1}{4}$ intravenously failed to produce relief and a second dose was repeated with some relief. In 15 minutes the pain again became unbearable and a third dose of morphine gr. $\frac{1}{8}$ was given I. V. with relief of pain. This patient is ambulatory today. One month ago he developed severe exertional angina and this has been controlled by the continued use of dicoumarol.

Patients that are apprehensive and restless during the first few days of illness invariably do poorly. One or two cc. of demerol with seconal gr. 1½ every four to six hours will usually produce rest and start the more apprehensive patients on a favorable course. This sedation should be gradually reduced after two or three days and then withdrawn. Of course we do not advocate this for all patients but in some it will mean survival. Even though withdrawal symptoms may be experienced, preservation of life takes precedence over all other considerations during those critical days.

In regard to myocardial infarction one should not wait for the development of cyanosis as it is a late indication. Even a slight increase in the available oxygen may keep the coronary circulation in positive balance and prevent extension of the area of necrosis. Oxygen should be started at the onset of pain and continued for several days until the physician is sure that there is little danger of further pain.

Anticoagulation therapy is indicated in all cases of acute myocardial infarction unless there is a specific contraindication. A careful history is necessary in regard to increased bleeding tendency, previous hepatic or gastrointestinal disease. A complication as hemorrhage from an old peptic ulcer is a catastrophe. It has been our impression that in addition to reducing the embolic complications, the anticoagulants have a specific beneficial action in reducing coronary pain. This appears to be separate from the anticoagulation effect. Dicoumarol should be started on the first day of treatment and dosage thereafter regulated on the basis of prothrombin percentage determinations. It may be wise to use heparin until the dicoumarol effect can be established.

Aminophylline orally though feeble in its action is of some value. Several catastrophies have been reported following its use intravenously during acute myocardial infarction and the value to be obtained is not worth the risk. Papaverine is of some value and may be used orally, intramuscularly or intravenously.

The onset of congestive failure is an ominous sign and the chances of recovery are markedly diminished. Digitalis is not indicated in myocardial infarction unless there are signs of congestive heart failure and then it is specifically indicated. One must repeatedly seek for early signs of this complication as control is much more likely if treatment is started in the incipient stage. When one feels that congestive failure is threatening he is justified in starting digitalis. One must be cautious as to the speed of digitalization and rapid action intravenous drugs as ouabain and cedilanin are contraindicated. Mercurial diuretics are of at least equal value. As they are sometimes irritating to the myocardium, thiomerin should be used as it has a wider margin of safety than the intravenous mercurials.

Shock and peripheral vascular failure at the onset of the disease indicate a poor prognosis and are very difficult to treat. Digitalis and ephedrine seem to be of some help. One is caught in a dilemma whether or not to use intravenous fluids to establish an effective blood pressure (usually plasma). There is a considerable question as to whether it helps or aggravates the process and pulmonary edema can be quickly produced. In that even intravenous atropine is indicated. In treating forward failure we may produce backward failure of the heart. Slow intravenous drip of 50 per cent glucose seems more feasible. On the other hand a lower nephron nephrosis may defeat all our effort.

Frequent extrasystoles are an indication for quinine. One should obtain history in regard to quinine sensitivity as a dual sensitivity often exists. The onset of ventricular tachycardia is a grave complication and the speedy use of quinidine may be lifesaving. Procaine preparations are effective. My impression is that quinidine is more reliable. If intravenous use is necessary I prefer procaine rather than quinidine.

Anticoagulants have not abolished the danger of embolism as it occasionally occurs in the presence of full anticoagulation effect.

CASE 10. JPB. GH. 60-year-old painter entered the hospital with severe chest pain. The following day electrocardiogram showed typical anterior myocardial infarction. Dicoumarol was started immediately and maintained in therapeutic zones. Ten days later he had a pulmonary embolus. The following day a second one resulting in death.

Embolism to an extremity, usually the lower, is an indication for immediate surgery and despite the grave heart condition may be life saving.

CASE 11. GMH. A-55-year-old man was admitted on the surgical service because of upper abdominal pain.No surgical diagnosis could be established and on the third day electrocardiogram showed a typical anterior myocardial infarction. On the ninth day there was an embolus to proximal portion of the femoral artery. Under spinal anesthesia immediate surgery was performed, the embolus removed and life as well as limb saved. A complication of ventricular tachycardia was abolished with quinidine, One year later this patient was ambulatory with no appreciable deficiency.

The presence of a friction rub is an unfavorable sign as it indicates a large lesion. It should be constantly searched for and dictates a longer period of bed rest than usual.

Control of angina pectoris in subsequent months and years is often a difficult problem. Limitation of activity and avoidance of excess responsibility are of course fundamental, We have been disappointed with the khellin preparation as in our experience it has proved ineffective and nearly always causes undesirable gastro-intestinal symptoms. Nitroglycerine remains a standby. Aminophylline and papaverine are of some value, particularly the latter if troubled with extrasystoles. One should not forget the long acting nitrates as mannitol hexatitrate and erythrital tetranitrate. Quinidine is occasionally effective, particularly in the presence of extrasystoles. We have five cases in which the prolonged use of dicoumarol has been effective when all other measures failed. Smaller doses than necessary to produce anticoagulation effect in therapeutic zones seem effective in controlling the angina. However, one must continue to follow the prothrombin determinations. After established regulation every 7 to 14 days will suffice. We are not seeking a strong anticoagulation effect at this time. Repeated blocks of the stellate ganglia and sympathectomy are sometimes resorted to. They are particularly effective in relieving the causalgia pain (reflex sympathetic) that may follow a myocardial infarction.

The follow-up evaluation should include a chest x-ray as the presence of a ventricular aneuryism dictates stricter regime and precaution.

In summary I would like to emphasize the following points:

1. More careful evaluation of patients on routine examinations, especially those in the fourth, fifth and sixth decades who exhibit unusual tension, restlessness, mild discomfort in the chest or collar area, and other vague symptoms. More frequent use of the exercise tolerance test on these patients.
2. Recognition that early treatment and proper regime may permit establishment of adequate collateral coronary artery circulation and prevention of myocardial damage or infarction.
3. Liberal use of narcotics and sedation during the early stages of myocardial infarction with resort to intravenous administration if necessary, to relieve pain.
4. Liberal use of oxygen without waiting for cyanosis which is a late indication in myocardial infarction.
5. Prolonged use of anticoagulants as an effective method of controlling subsequent angina when refractive to other drugs.
6. Careful follow-up study including routine chest x-ray to detect bulges of the myocardial wall.
7. More optimistic attitude in regard to disease of the coronary arteries. Myocardial damage or necrosis can be prevented. Individuals with acute myocardial infarction can in time be restored to useful life.

DISCUSSION

DR. J. MANNING HUDSON (JACKSON)—We have certainly all enjoyed the timely presentation by Dr. Cooke. His comments on diagnosis and management of this very important type of heart disease we would agree with completely. One thing that we would like to mention which Dr. Cooke did not bring out in his paper is the need for earlier diagnosis of coronary sclerosis. As he mentioned, a patient frequently has no signs or symptoms until his original myocardial infarction. The electrocardiogram is of no value in determining the degree of coronary artery disease unless some myocardial damage has occurred. The pattern is often normal up to the time of the infarct. If it were possible for us to detect impairment of coronary circulation three or four years prior to the actual occlusion of these vessels, it might be expected that treatment would be of more value. Recent work with the ballistocardiogram holds much promise in this field. Many workers, among them Starr, Dock, and others, have published interesting papers within the last few years which seem to indicate that changes in the ballistocardiogram may precede the actual onset of symptoms and the changes in the electrocardiogram by months or years. If this technique can be adapted to clinical use it is likely that in the future we will be attempting to treat coronary sclerosis before the actual onset of myocardial changes.

One other point I would like to mention. In our modern machine age society the electrocardiogram is becoming more and more popularized among the laity. Although we know it as a machine of great accuracy but of definite limitations, the patient thinks of it as the final arbiter in all cardiac diagnosis. Minor variations of the cardiogram can be produced by change in position, by rotation, by drugs, and even by autonomic nervous system imbalances. These changes, which are not indicative of organic heart disease, can often be misleading. If the physician tells the patient that the tracing is abnormal, no amount of explanation in the future will undo the harm done. Great care then must be taken in the interpretation of these findings, for often we can produce a cardiac neurosis which is more severe than the organic heart disease, which was suspected but not found.

DR. JOSEPH P. MELVIN, JR. JACKSON—Factors influencing Prognosis in Acute Coronary Occlusion and Myocardial Infarction include:

1. AGE: Most observers have found the mortality to increase with the age of the patient. Woods and Barnes noted that the mortality was twice as great beyond the age of sixty as below. However, I have been impressed by

the relatively high percentage of patients who died of their first attack of myocardial infarction below the age of forty.

2. PREVIOUS ATTACKS OF MYOCARDIAL INFARCTION: The mortality rate is significantly higher in patients presenting a history or evidence of previous attacks of acute myocardial infarction. This applies particularly to those patients who suffer from chronic heart failure as a result of the previous attack or whose fresh attack was characterized by the initiation or intensification of congestive heart failure.

3. SEVERITY AND DURATION OF PAIN: The severity of the pain is not in itself of prognostic importance. But it is my impression that when the pain remains intractable, or is only slightly alleviated by opiates after the first twenty-four hours, the outlook for survival is usually unfavorable.

4. **SHOCK**: When myocardial infarction is accompanied by an extreme degree of shock, or when evidence of shock persists after several days, the outlook is unfavorable.

5. HEART FAILURE: Since heart failure is one of the chief causes of death during the acute attack, the development of acute pulmonary edema or of other symptoms of left- or right-sided heart failure are inauspicious. Yet it should not be viewed ominously unless it persists beyond the first week, since some evidence of left ventricular failure occurs frequently at the very onset of acute myocardial infarction. In the presence of persistent gallop rhythm the mortality rate is considerably higher than in its absence; but since this sign is an expression of left ventricular failure, it has the same prognostic significance as the latter.

6. FEVER AND LEUKOCYTOSIS: In general, temperatures of 104° or higher, or a white blood count above 20,000, denotes extensive or progressive myocardial infarction or a serious complication and is associated with a high incidence of mortality. A similar significance is attached to the persistence of even moderate fever and leukocytosis for more than one week after the onset of the attack.

7. ELECTROCARDIOGRAPHIC CHANGES: Although it was formerly thought that a typical electrocardiographic pattern of anterior wall infarction augured a somewhat higher mortality rate than that of infarction of the posterior wall, it now appears that the location of the infarct has not in itself prognostic significance. However, when the electrocardiographic changes are not clearly those of either anterior or posterior wall infarction, the mortality rate seems to be higher, perhaps because the indefinite electrocardiographic patterns usually denote multiple cardiac infarcts.

8. CARDIAC ARRHYTHMIAS: Among the electrocardiographic alterations which augur a grave prognosis are those which delineate certain cardiac arrhythmias. The mortality rate is probably significantly increased when auricular fibrillation or flutter, ventricular tachycardia, or signs of intraventricular block are present. According to Askey and Neurath, cardiac infarction is associated with a higher mortality when auricular fibrillation is present than in its absence, but the mortality rate is strikingly increased only if the fibrillation persists.

A very high mortality rate is associated with the development of complete heart block, especially when symptoms of the Adams-Stokes syndrome appear.

9. EMBOLIZATION: The occurrence of pulmonary, cerebral, visceral or peripheral embolism is associated with a high mortality.

Consumption of frozen orange juice concentrate has more than doubled in the year since the Council on Foods and Nutrition of the American Medical Association reported that "it may be considered as the nutritive equal of fresh orange juice."

The jump in sales of the frozen juice amounted to 117 per cent in May, 1952, over the same month of the previous year when the report was issued, a Florida Citrus Commission sales comparison tabulation shows.

Carcinoma of the Cervix*

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It is the purpose of this paper to evaluate the treatment of carcinoma of the cervix in the light of past experiences and recent changes. Your attention will be directed toward the treatment of Stage I, II, and early Stage III lesions. The extremely radical surgery having been instituted by Brunschwig of New York for the treatment of advanced lesions of the cervix, while a subject of extreme importance and interest to all is beyond the scope of my intentions in this paper.

With the exception of the last four or five years, carcinoma of the cervix has been treated by radium and/or x-ray by the vast majority of doctors during the past thirty years. The one notable exception to this school of thought has been Victor Bonney of England who has consistently used the radical hysterectomy of Wertheim and now has a series of well over 500 cases.

In recent years Bonney has been joined by several outstanding men in this country and in general the last two or three years the Wertheim hysterectomy has enjoyed a rebirth of popularity. The morbidity and mortality rate of the Wertheim operation in the early days was so great as to prohibit it as a means of treatment. However, with modern advancements in the handling of major surgical cases the morbidity and mortality rate for this operation has been markedly reduced. This recent swing of popularity for the Wertheim operation is largely due to the work of Joe Meigs of Boston, who reported in 1944 a series of 47 operations on selected cases without a single mortality. This article electrified the gynecological surgeons of the nation and gave a rebirth to consideration of this operation. Since this time numerous articles have appeared in the literature, all of which showed marked reduction in mortality and morbidity for this procedure and it is now finding an even wider field of acceptance.

So today, that brings us to the point where we must decide in treating carcinoma of the cervix—whether the patient should be irradiated either by x-ray or radium, or a combination of the two, or whether the patient should be subjected to immediate radical surgery, or whether the patient should be treated with a combination of irradiation and radical surgery.

There are statistics available on the results of treatment by irradiation alone, and Victor Bonney has supplied us with a large series of results from the Wertheim procedure employed alone. However, at the present time there is no large series over a sufficient period of time to be significant showing the results of treatment combining maximum irradiation and radical surgery.

It is your author's belief that in the light of present knowledge the best chance for a cure of carcinoma of the cervix in Stage I, II, and early Stage III, is maximum treatment with irradiation, both x-ray and radium, and radical surgery. This, of course, remains to be substantiated by future experiences, but in the light of reason and logic it seems to offer the most promising results.

First, I would like to consider the case for irradiation. In the outset, one must admit that one is dealing with a vicious disease and only bold and aggressive treatment will give maximum beneficial results. I say this because it is apparent from my observations and from my review of the literature that inadequate doses of irradiation are too frequently employed. The fear of bowel damage and of fistula production has led to this inadequacy of irradiation. It is important in the insertion of radium to disseminate the radium capsules in such a way as to avoid "hot spots". It is these hot spots which occurred in some of the older type of radium applicators which produced the complications mentioned above. It is my policy to use the Ernst applicator which separates the radium capsules and adequately shields them in such a way as to admit at least a 6,000 mg. hour dosage of radium for all patients. In recent years this has been my standard dosage for carcinoma of the cervix with radium, inserting 100 mg. for a single dose of 60 hours. Of course, one is likely to encounter a patient with undue sensitivity to irradiation and in an occasional patient using this dosage one can expect some untoward results. However, as mentioned above, the disease we are dealing with is a vicious disease and if one under irradiates the case, one is reducing the chances of that individual for a cure. I will not attempt to discuss the amount of x-ray which should be employed in the treatment of cancer of the cervix as this should be individually evaluated by a competent roentgenologist; however, it is equally important to render maximum irradiation with x-ray as well as with radium.

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*Presented May 15, 1952 at the Mississippi State Medical Association meeting in Jackson, Mississippi.

The question whether to start the treatment with x-ray or with radium must be answered in every case. It is my policy to employ radium first if the lesion is not very advanced, or if very little infection is encountered around the cervix. In Stage I or early Stage II, with a small and relatively clean cervix, I use radium first because of the theoretical advantage that radium will hit the lymph channels with a heavy, immediate dose of irradiation, thereby sealing them off and gaining some time advantage in thwarting the growth of the cancer. However, in the cases of Stage I and early Stage II cancer of the cervix which show hypertrophy and a large amount of local infection, it is the best policy to employ x-ray first so as to shrink that cervix down to a size where the tumor cells will be within the range of radium emanation.

The five-year cure rate quoted in the literature varies rather widely. However, the overall cure rate using x-ray and radium is in the neighborhood of 45 per cent for cancer of the cervix.

The overall cure rate for cancer of the cervix in the hands of Victor Bonney, who has the only large series over a period of many years in the treatment of cancer of the cervix by radical surgery alone, is not quite so good as the mean figure of irradiation statistics. However, it is a comparable figure and therefore the advantages of irradiation in the treatment of cancer of the cervix as compared with the available statistics on radical surgery for cancer of the cervix is open to some question and indeed is under attack by the proponents of radical surgery.

In consideration of the case for radical surgery, statistical evidence is rather meager since as previously mentioned Victor Bonney has almost the only large series of cases reported in literature. Of course, at present there are numerous doctors who have started a series of cases, but only time will give us the result of that study. It is only fair to point out that there are certain limitations to the surgical procedure and a certain degree of selectivity must be employed in applying this method of treatment. If the lesion is a late Stage III, or Stage IV, the radical surgery of Wertheim will almost certainly not eradicate the disease. Therefore, in my opinion it should not be employed in this advanced stage of the lesion.

Extreme obesity is another contra-indication for radical surgery since the technical difficulty of the operation would add to the morbidity, and, no doubt, to the mortality rate. It is my opinion that extreme obesity is the greatest surgical liability that an individual can carry, and I await with great interest a statistical study now being made investigating the repeated clinical observation that cancer is more prevalent in obese than in non-obese individuals. There are other considerations of surgical risk which would eliminate certain cases from selection for the radical operation. Among these is extreme old age and extreme heart conditions. But these contra-indicating conditions are relatively infrequent permitting the great majority of cases to be treated by radical surgery.

The question which is often asked by proponents of irradiation—why use surgery if irradiation will give just as good results. This would be a difficult question to answer, but in advocating a combination of irradiation and surgery the answer is as follows and is supplied in part by Doctor Meigs. We have all seen cancers recur in a cervix that has been irradiated—if the cervix has been removed there is no chance for recurrence in it. Many authorities strongly suspect that irradiated uterine tissue is more likely to develop malignant changes—if a cervix has been removed no new cancer can form in this organ.

One does not have to treat many cancers of the cervix before realizing there are some cancers which are highly resistant to irradiation. Generally speaking, the ulcerative or crater forming type of malignant changes in the cervix are resistant to irradiation and the results of irradiation therapy are not as good as are found in cases of the fungating or cauliflower type of growth. It is extremely gratifying on occasions to find that the fungating type of malignant growth will melt away beautifully under the effect of irradiation. This marked difference in the response to irradiation between the ulcerative type of lesion and the fungating type of lesion has led most clinical observers to regard a Stage I ulcerative lesion as having a Stage II prognosis, and a Stage II fungating lesion as having a Stage I prognosis. There is some very interesting work being done at present regarding an effort to determine the degree of sensitivity and response to irradiation therapy. Doctor Schmitz of Chicago is undertaking studies in this regard and feels that observations should be made during the course of x-ray therapy to determine its response and if suitable response is not apparent in the early stages of irradiation, other means of therapy should be instituted. Determining the response to x-ray during its administration is made by clinical observation of the cervix and microscopic sections at various stages of irradiation therapy. It seems generally agreed now that irradiation frequently does not destroy malignant implants in the lymph nodes of the pelvis, and it has been proved by Bonney and Taussig and others that these early malignant spreads into the lymph nodes of the pelvis can be eradicated by radical surgery.

It has been stated that irradiation produces such changes in the tissue as to make radical surgery technically very difficult. While it is true that in an occasional case, technically the operation will be made difficult by the previous irradiation, this has been grossly oversold to the profession. The true facts are that in the majority of cases little or any changes can be detected in the operating procedure, and the operation can be one with equal facility folowing x-ray and radium as could be accomplished before any irradiation therapy. An occasional case will present itself having had irradiation therapy in which technical difficulties will be encountered. These difficulties consist of mild edema of the tissue and a loss of the easy cleavage of the tissue in the fascial planes and occasionally moderately dense fibrous tissue reaction. When this presents itself a little more tedious type of dissection is necessary, but in no way is prohibitive.

I would like to sum up the thoughts in this paper by stating that we know that x-ray and radium are good treatment for cancer of the cervix. We have also found recently that radical surgery, the Wertheim procedure, is an operation which is feasible now in the light of present surgical advancements. We also know that in the hands of good men the radical surgery produces about the same degree of cure rate as x-ray and radium. While the answer lies in the future in the result of large series which are now being studied, it appears logical to me that the best results will be obtained by a combination of maximum x-ray and radium therapy and radical surgery. It would appear to me that the advantages in each method would be supplemented by the advantages of the other. Therefore, one should employ the killing powers of irradiation, not only to kill the tumor cells, but to seal off possible avenues of spread, and then remove the tumor growth by radical surgery. Once the cervix has been widely removed, there is no chance that a tumor can ever grow there and it is the malignant cells which have spread beyond the scope of surgery and have resisted irradiation that can cause a recurrence of this disease. We await with interest and hope that the future will show us an increased cure rate in cancer of the cervix.

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The Mississippi Doctor

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Editorials

CANCER SEMINAR

The cancer seminar at Vicksburg, October 7 and 8, will offer one of the best courses to be found anywhere on the subject. Every doctor in the state should attend if at all possible. Dr. W. H. Parsons is the guiding spirit behind this program, but all Vicksburg extends a cooperative and enlightening hand.

CANCER SEMINAR GUESTS

Two of the nation's outstanding men in the field of cancer research will be guests on the two-day program. They are Dr. Charles Lund of Boston, Mass., and Dr. Randolph Lee Clark, Jr., of Houston, Texas. Both essayists will present papers with pertinent findings in the treatment and care of cancer patients.

Dr. Lund is associate surgeon at the Palmer Memorial Hospital in Boston, assistant professor of surgery at Harvard University. He is a fellow in the American College of Surgeons, a member of the A.M.A., American Surgical Ass'n, Eastern Surgical Society, New England Surgical Society, Society of Clinical Surgery, and the International Surgical Society. His renown is nation-wide in the surgical field and as a cancer student.

Dr. Clark has had wide training and experience both in Europe and at the Mayo Clinic, Rochester, Minn., where he was assistant surgeon in 1938 and 1939. He is director and surgeon-in-chief at the Texas University Hospital, dean and professor of surgery in the Postgraduate School of Medicine, University of Texas. He has been doing valuable work at the Anderson Hospital for Cancer Research since 1946.

HOSPITAL PROGRESS

From 700 hospitals eighty years ago in the United States, we now have 6,637 registered by the American Medical Association, their bed capacity totaling 1,529,988, with an annual admission rate of more than 18,000,000. General hospital beds in Mississippi including the ones under construction total 6,340; for mental cases, 5,255, and for T. B. 617 beds. Mississippi has five state-owned and operated charity hospitals. The per capita fund for the indigent sick appropriated by the last legislature for the biennium is $1,375,000. From July 1949 to June 1951, 20,039 patients were treated by this fund at an average cost per patient of $45.78 or $4.72 per day.

From a per diem cost in general hospitals in 1940 of $6.55 today the average patient pays $16.00 per day. For all types of hospitals last year the cost averaged $8.26. Mississippi's new system provides 55 general hospitals, volunteer insurance figuring largely in making hospital service immediately available to most of the population.

THREE-WAY SERVICE

The doctor, the pharmacist, the dentist, the nurse and the hospital make up the service unit in medicine. These professions must have a united interest in the patient, as did the general practitioner in former years. They should share alike in this duty, and responsibility and opportunity to serve.

A A G P

The fourth annual assembly of the American Academy of General Practice, Mississippi Chapter, meets at the Buena Vista Hotel in Biloxi on September 17. Dr. S. K. Johnson of Pelahatchie is the president. The program promises to be excellent, and the meeting place is not to be excelled. Don't fail to attend the meeting if at all possible.

The September meeting of the Northeast Mississippi Medical Society will be held in Amory. Amory is the home of the beloved Dr. G. S. Bryan who served his people in faithful practice and fine citizenship, and organized medicine with safe leadership. In the art of living he is an expert. Our incoming president of the state medical association also lives in Amory. An able surgeon and a great student of medicine, Dr. Ewing has served his profession soundly.

HONORED

The August issue of the **Lion Magazine** carried a picture of Dr. H. G. Hightower of Webb being presented a television set at the celebration of his fiftieth year of service in the practice of medicine. We join the **Lion's** many thousand subscribers in congratulations. Dr. Hightower is surely one of the anointed in the field of general practice.

The Alcorn Medical Society is carrying on a fine type of postgraduate work in its monthly meetings. In August the doctors of this society presented a symposium on tuberculosis with speakers from the Mississippi State Sanatorium. Drs. Ray H. Biggs, James E. McConnell, and Watts R. Webb were the speakers discussing diagnosis, medical, and surgical treatment. Dr. Hasseltine, president, presided.

News and Comment

CANCER SEMINARS

Vicksburg, Miss.

TUESDAY, OCTOBER 7, 1952

9:00 a.m.—11:00 a.m.

Attendance at the Regular Meeting of the Tumor Clinic, Conducted by the Staff of the Lutheran Hospital.

11:00 a.m.—11:40 a.m.

The Technic of and Value of Biopsy and Cytologic Studies—Dr. Robt. M. Moore

11:40 a.m.—12:00 noon

What Lesions Should a General Practitioner Biopsy?—Dr. J. Harvey Johnston, Jackson, Miss.

12:00 noon—2:00 p.m.

Luncheon. To be arranged by the Academy of Practitioners.

Round table discussion to be led by Dr. Charles C. Lund, Boston, Mass.

2:00 p.m.—2:30 p.m.

The Treatment of Cancer of the Cervix Uteri by Roentgen Therapy—Dr. F. J. Hamernik

2:30 p.m.—3:00 p.m.

The Treatment of Cancer of the Cervix Uteri by Surgery—Dr. I. C. Knox, Jr.

3:00 p.m.—4:00 p.m.

The Nutritional Requirements of Patients with Cancer—Dr. Charles C. Lund, Boston, Mass.

4:00 p.m.—5:00 p.m.

Cancer of the Head and Neck and Malignant Melanoma with Presentation of Cases—Dr. H. T. Whitaker

WEDNESDAY, OCTOBER 8, 1952

8:00 a.m.—11:00 a.m.

Operative Clinic by Dr. Parsons and Staff.

(1) Cancer of the Uterus—Radical Hysterectomy with Node Dissection.
(2) Biopsy of Breast and Probable Radical Mastectomy.
(3) Carcinoma of the Stomach—Gastrectomy.
(4) Carcinoma of the Rectum—Abdominoperineal Resection.
(5) Carcinoma of the Lung. Thoracotomy and Probable Pneumonectomy.

11:00 a.m.—12:00 noon

The Role of the General Practitioner in the Cancer Problem—Dr. W. K. Purks

12:00 noon—2:00 p.m.

Luncheon, with round table discussion to be led by Dr. R. Lee Clark, Houston, Texas.

2:00 p.m.—3:00 p.m.

Recent Advances in the Diagnosis and Treatment of Cancer—Dr. R. Lee Clark, Houston, Texas

3:00 p.m.—4:00 p.m.

Why Is the Cancer Patient a Hopeless Problem with Presentation of Cases?—Dr. W. H. Parsons

4:00 p.m.—4:30 p.m.

The Care of the Patient with Terminal Cancer—Dr. E. R. Noble, Rosedale, Miss.

4:30 p.m.—5:00 p.m.

Question and answer period with Doctors Charles C. Lund and R. Lee Clark, moderators.

MISSISSIPPI STATE BOARD OF HEALTH

Felix J. Underwood, M.D., Executive Secretary

The Birthplace of County Health Work

On November 14, 1914, there was established in Prentiss County, Mississippi, what is considered the first attempt to carry forward a program of full-time health protection on a county basis.

Prior to the establishment of this program, there had been health demonstrations put on in communities but without the idea of having the entire county considered. What generated this thinking regarding county health work?

The generation of the idea of "local health service" seems to have first taken place in 1910 when hookworm campaigns were put on. The Rockefeller Foundation (Commission) of New York assisted the communities in this important work. The thinking at this time was rather broad in that the statement was made in 1910 that these hookworm demonstrations had as one stated purpose . . . "to help lay the foundation of a state and local health service that in the end should take care of hookworm infection and all other preventable disease."

Dr. Henry Boswell, who was in Prentiss County during this period, writes as follows:

> "I was assigned to Prentiss County and after going in there and finding the county literally riddled with typhoid fever, malaria, hookworm disease, diphtheria and scarlet fever, to say nothing of tuberculosis, I made friends with the Board of Supervisors and sold them on the idea that they should have a full time health program in their county. They finally agreed to this with the provision that I get a release from the Rockefeller Commission and the State Board of Health for at least two years to run it for them. This I did, and they appropriated what we considered in those days sufficient funds for me to put on a full time health program. Of course, I had no nurse or office workers. I did it all myself. We had our own little laboratory where I did the work for the doctors of the county, much as is being done today, and made a complete health program so far as it was possible for one man to do it. I took day and night for it, all of the expenses being paid by the Board of Supervisors."

The intensive county health campaign in Prentiss County continued from November 14, 1914 until January 1, 1916. Then from January 1, 1916 until July 1, 1917, Prentiss County had what was known as a "county department of health." Unfortunately, no further appropriations were made for this service until January 1, 1941. A full-time county health department has been in existence continuously since that date.

An outgrowth of this was that the Boards of Supervisors in various counties appropriated funds for diseases other than hookworm as they did in Prentiss County. Authority was granted for this by Chapter 203, Laws of 1918 . . . "the board of supervisors and all municipalities—be and are hereby authorized and empowered in their discretion, to appropriate money to be used in the control, eradication and suppression of contagious or infectious diseases and in the promotion and betterment of public health."

It seems that many factors were at work to make county health work a reality. In 1920, the Legislature passed Chapter 208 authorizing each county in the State to create a department of health for each county and authorized two or more counties in certain cases to unite in creating a department of health for the counties so united.

Dr. W. S. Leathers, Executive Officer of the Mississippi State Board of Health, stated at this time: "There is no more important work of the Board than 'County Health Work.' This means that a broad program of health work is carried on in a county, varying the methods used and the problems considered in such a way as to enlist the interest of the people generally in a broader program of health work . . ."

That the first health work on a county-wide basis as "county health work" was first done in Prentiss County in 1914 is significant. The crystallization of thinking in terms of local health work came about very early in Mississippi and we were among the first states to consider local health service on a county-wide basis. Up to the present time, eighty of the eighty-two counties have provided full-time county health service.

Roentgen Manifestations of Intestinal Obstruction*

J. E. MILLER, M.D.†
Dallas, Texas

THE ROENTGEN examination in patients suspected of having intestinal obstruction is an important diagnostic procedure. In many instances valuable help is obtained and occasionally an exact diagnosis can be made. A high percentage of films shows no evidence of intestinal obstruction. The value of the examination in helping to eliminate the possibility of intestinal obstruction should be emphasized. The etiology of intestinal obstruction can rarely be diagnosed by the roentgen method using plain films.

The term, ileus, is used in the broad sense and constitutes any interference with progression of the intestinal current. So that there can be no ambiguity, those obstructions which are caused by mechanical factors will be referred to as mechanical intestinal obstruction. Those of inhibitive origin will be referred to as adynamic ileus.

There is very little question that the film of the abdomen made with the patient supine and taken anteroposteriorly is the most important of the films which are usually made. The upright film which is frequently requested is of little or no value. The reason given for obtaining this film is the desire to see fluid levels. One of the purposes of this paper is to indicate that this film is of little value and that a transverse film of the abdomen with the patient supine is of considerably more value. The transverse film gives the same information obtained from the upright film, namely, visualization of fluid levels. The films should be made before an enema is given. Retained liquid of an enema shows as fluid levels. Fluid levels may not have been present before the enema. This has been a source of error and confusion. There is no distortion of the abdominal contents in the transverse film, whereas in the upright position, the loops of bowel are distorted and displaced so that they are poorly recognized. Usually the upright film of the abdomen is a poor film. It is taken without benefit of the bucky diaphragm and many times the patient is sick so that there is motion. One of the reasons for using the transverse film of the abdomen rather than the upright film is the fact that the patient is not discommoded. Certainly, if the patient is ill, it is better not to place him in an upright position to obtain the film. In obtaining anteroposterior and transverse films of the abdomen, the patient does not move from the supine position.

This writer has not seen an upright film of the abdomen give information on intestinal obstruction which could not be obtained by the anteroposterior and transverse films. On the other hand, numerous diagnoses have been made by means of a transverse film which would not have been even suspected if supine and upright films of the abdomen had been the routine.

Three diagnoses have been made on several occasions by the transverse film, which were missed or might have been missed on the upright film. The most important of these diagnoses is volvulus of the small bowel. On several occasions, pneumoperitoneum has been discovered which was not suspected clinically and which could not be seen in the anteroposterior film. On many occasions the upright film of the abdomen does not include both leaves of the diaphragm so that the small pneumoperitoneum was missed on the upright film. One of the diagnoses which has been seen on occasions is a small hernia through the anterior abdominal wall. On some occasions where there is a considerable thickness of fat on the anterior abdominal wall, a small hernia might not be palpated. Several umbilical hernias have been seen which had not been diagnosed previous to the roentgen examination. In several instances of postoperative obstruction a small knuckle of bowel has been set to project through the anterior abdominal wall.

In surveying x-ray films of the abdomen, it is necessary to identify the type of bowel which is distended. This can be a very difficult task and is frequently the source of error. Many examples are available where the loops of bowel are interpreted to be large bowel and were later proved to be small bowel. It is likewise true that the colon has on occasion been interpreted as being small bowel, but this is a less frequent mistake. The two chief methods of differentiating bowel are the character of the folds within the bowel and also the position of the bowel. The position of the bowel is fairly efficient in identifying colon. It is less frequently so in identifying small bowel. The folds of the small bowel are different from the colon. In the small bowel, they have three names which are frequently used, namely, valvulae conniventes, plicae circularis, and the eponym Kirkring's folds. Plicae circularis seems the most logical term to use since these folds are circular as opposed to the plicae semilunaris seen in the colon. The transverse film is of little value in differentiating the type of bowel. It is noted, however, that in colonic distention, the fluid levels are considerably longer and the bowel itself is larger.

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† From the Departments of Radiology, Baylor University Hospital and The Southwestern Medical School of the University of Texas, Dallas, Texas.

* Read before the sixty-third annual session of the Mid-South Postgraduate Medical Assembly, February, 1952, Memphis, Tenn.

Frequently it is impossible to tell if both large and small bowel are distended. If it is important to ascertain whether or not the colon is distended, a barium enema should be done. This is a safe and often helpful procedure. This has been done many times and the colon, if empty, will fill as a relatively small organ. Once the colon is completely filled, the remaining distended bowel is small bowel. There is no danger to this procedure and there should be no hesitancy in performing it. Figure 9 shows the colon filled with barium in a patient with mechanical small bowel obstruction.

Ordinarily, a significant amount of gas is not seen in the small bowel of the normal individual. The transit of liquid and gaseous content through the small bowel is relatively rapid and there is not time for separation of these substances. With obstruction, whether adynamic or mechanical, the bowel content will separate so that fluid levels can be visualized in the transverse film. Numerous examples of the various types of adynamic ileus are available for study. Many cases of adynamic ileus are seen because of the innumerable causes of this pnenomenon. In fact, adynamic ileus is frequently visualized on films where there is little clinical evidence that intestinal obstruction exists. Certainly, ureteral and gallstone colic are frequent causes of ileus. Inflammatory processes in various portions of the body may cause ileus. Pyelonephritis and pneumonia are causes which may be overlooked. A frequent cause of ileus, and one which is usually unsuspected, is mesenteric thrombosis. While this abnormality is being diagnosed more frequently before death, many cases have been seen at post which were not suspected clinically. It is not possible to enumerate the causes of adynamic ileus or show examples of each.

Ten cases have been seen in which an anatomical diagnosis of volvulus of the small bowel has been made accurately because of the transverse film. Since this is a closed loop obstruction, the loop of bowel begins to fill with liquid. As time progresses, the liquid increases and the gaseous content decreases. If the transverse film is made when a large amount of liquid is present, a definite mass can be recognized and in the upper portion of this mass a small amount of gas is seen. A visible mass with a fluid level observed on the transverse film is a closed loop obstruction. Volvulus is the most frequent cause. One patient had a closed loop obstruction due to adhesions present at two ends of a loop of bowel, and producing a closed loop effect. A small adhesion is a frequent cause of volvulus.

Figure 1 shows several loops of distended small bowel without the usual amount of gas in the colon. The upper transverse film in Figure

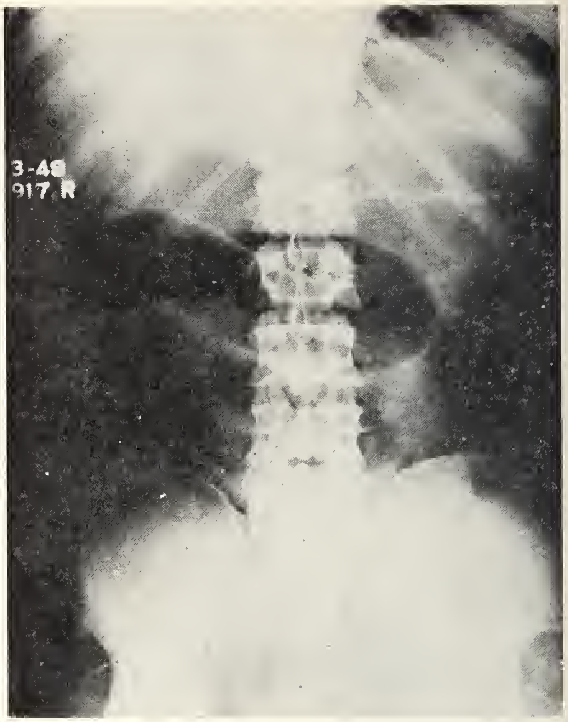

Figure (1). Mechanical small bowel obstruction. No gas can be recognized in the colon. Volvulus of small bowel correctly diagnosed from upper transverse film of Figure (4).

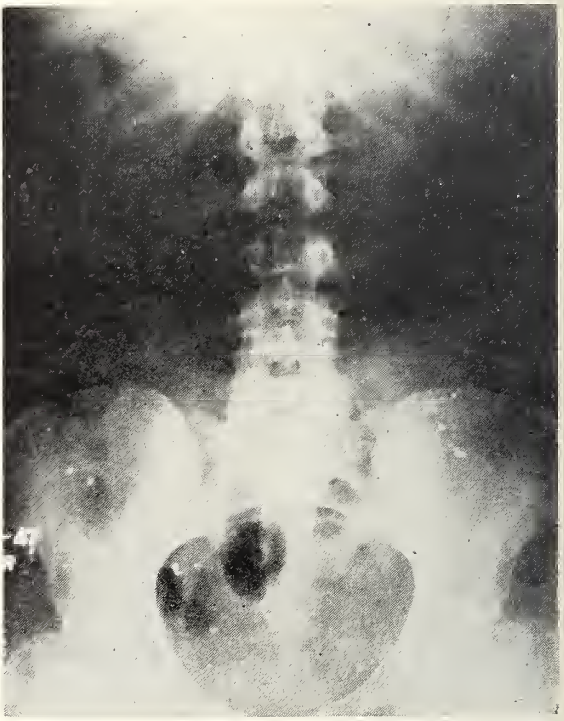

Figure (2). Distended small intestine in right upper quadrant. Volvulus of the small bowel correctly diagnosed from the middle transverse film of Figure (4).

4 shows the mass. Figure 2 shows some distended small bowel in the upper abdomen, more to the right. The middle transverse film in Figure 4 is the best demonstration of a mass containing a fluid level this observer has seen. Figure 3 gives little information concerning distended bowel. An indefinite mass is seen with a sharp lower border over the right sacro-iliac joint. The lowest transverse film of Figure 4 also shows a mass containing liquid and gas. All of these cases were called volvulus of the small bowel and proved to be so. Figure 5 is an example of a patient with volvulus in which the first examination shows no abnormality. A few hours later, the fluid levels are quite obvious. This is an excellent example of the important concept of lag between clinical onset and roentgen manifestations of disease.

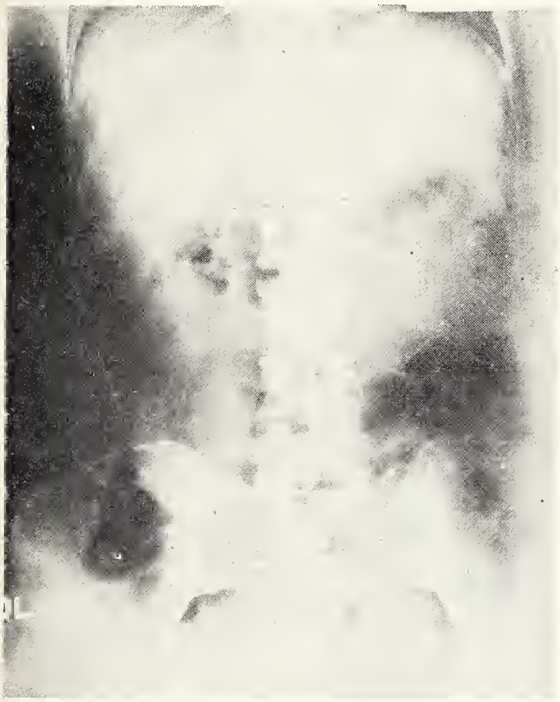

Figure (3). Indefinite mass over right sacro-iliac joint. Volvulus of the small bowel correctly diagnosed from the lower transverse film of Figure (4).

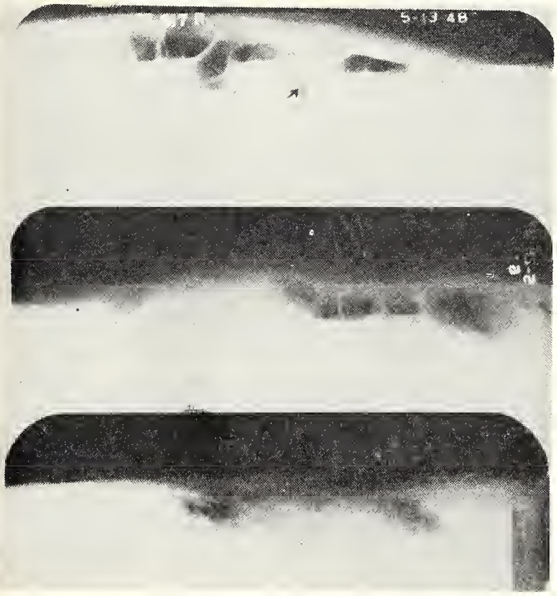

Figure (4). Transverse films in three proved cases of small bowel volvulus. The middle film is an excellent example of the diagnostic features.

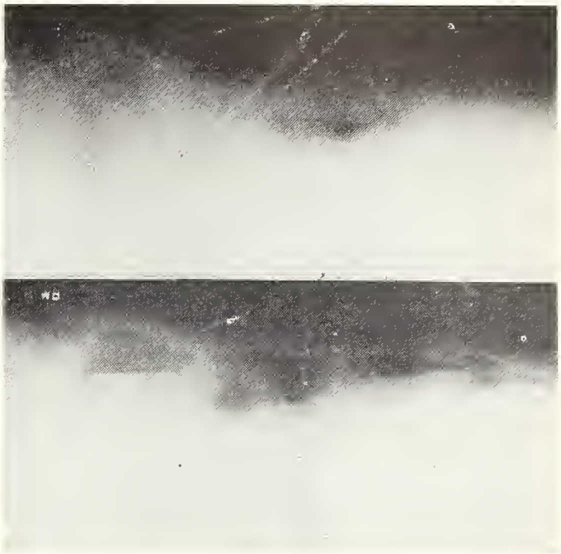

Figure (5). Volvulus of the small bowel before and after roentgen manifestations are apparent.

In evaluating intestinal obstruction, one must be able to recognize the small bowel pattern with a fair degree of accuracy. Figure 6 shows the so-called "stair-stepped" appearance of mechanical small bowel obstruction. This is mechanical obstruction since there is no gas in the colon. Figure 7 shows barium in the small bowel with the longitudinal striations seen in intussusception. This condition occurs much more frequently than is recognized.

It must be remembered that many small bowel intestinal obstructions are incomplete. This permits some gas to enter the colon. This makes differential diagnosis of adynamic ileus difficult, since patients with adynamic ileus in general have small and large bowel distention. It is notable that with incomplete small bowel obstruction, there is usually less gas in the colon than is seen normally. A film of the abdomen in a normal individual will show considerable gas throughout the colon and usually the various segments of the colon can be recognized. Fecal material also is seen throughout the colon, especially in the cecum and ascending portion. It is still possible to diagnose mechanical small bowel obstruction despite the fact that there may be some gas in the colon.

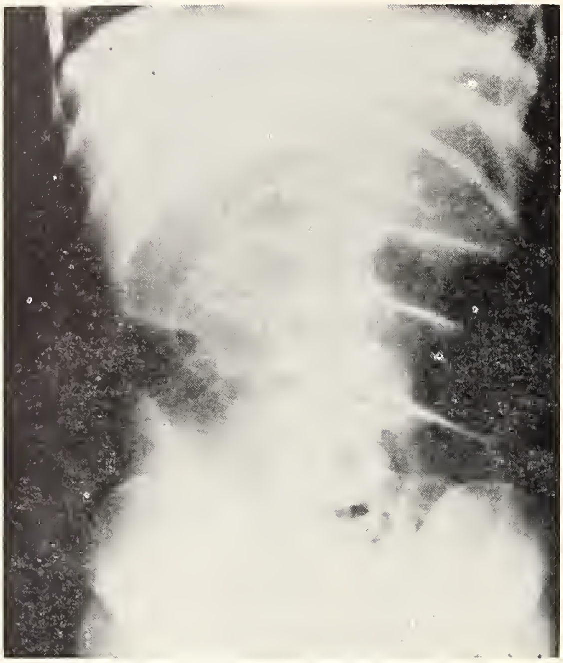

Figure (6). Stair-stepped appearance of mechanical small bowel obstruction due to intussusception. The colon contains no gas and is not visible.

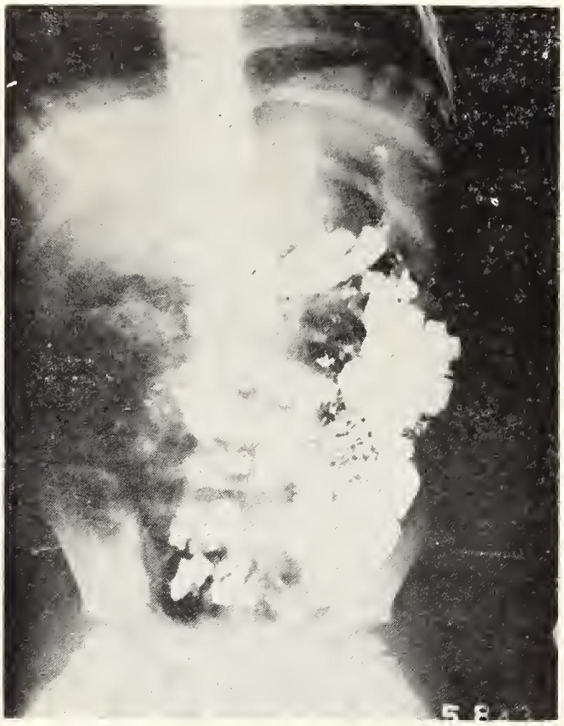

Figure (7). Small bowel intussusception. Longitudinal striations in radiolucent loop of bowel are characteristic.

When the intestinal obstruction is near the terminal ileum, the barium enema has on several occasions been able to visualize the point of obstruction. With reflux in the ileum, the point of obstruction can be seen. Of the various etiologic factors in intestinal obstruction near the terminal ileum, adhesions is probably the most common. Meckel's diverticulum is also a frequent cause. This observer has seen phytobezoars in sufficient number to preclude the use of persimmons. Figure 8 shows the stair-stepped appearance of small bowel distention. No gas can be recognized in the colon. This is a fairly typical appearance of mechanical small bowel obstruction. Figure 9 shows a barium enema with reflux in the terminal ileum. The barium outlines a mass in the ileum about ten to twelve inches from the ileocolic juncture. This was a persimmon phytobezoar.

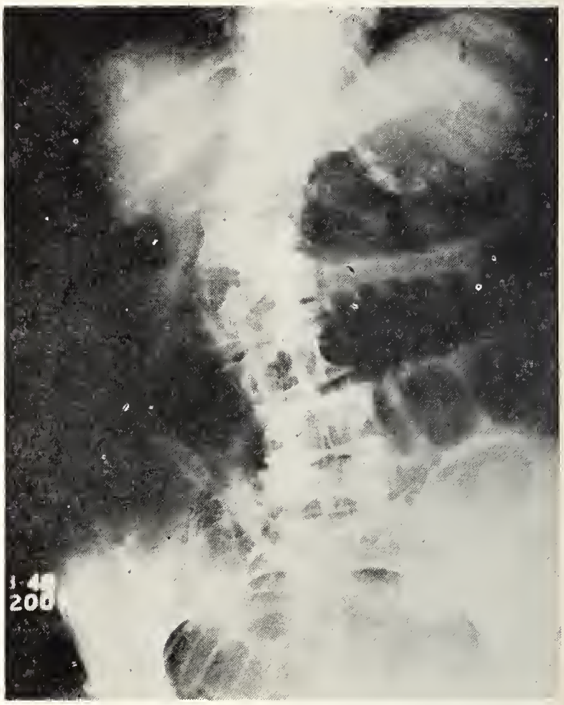

Figure (8). Typical stair-stepped appearance of mechanical small bowel obstruction. Colon is not seen since it contains no gas.

There are three signs of gallstone ileus which can be recognized on the x-ray film. If any two of these signs are present, the diagnosis can be made. Of these three signs, visualization of gas in the biliary radicals is the least likely to be seen. The most common combination is the evidence of small bowel mechanical intestinal obstruction with visualization of the gall stone. Several examples are available for study. On one occasion, an upper gastro-intestinal study was begun without knowledge that there was small bowel obstruction. In this instance, the gall stone was well visualized by barium. Barium also filled the gall bladder through the cholecyst-duodenal fistula. Figure 10 shows the distended loops of small bowel with the appearance of mechanical

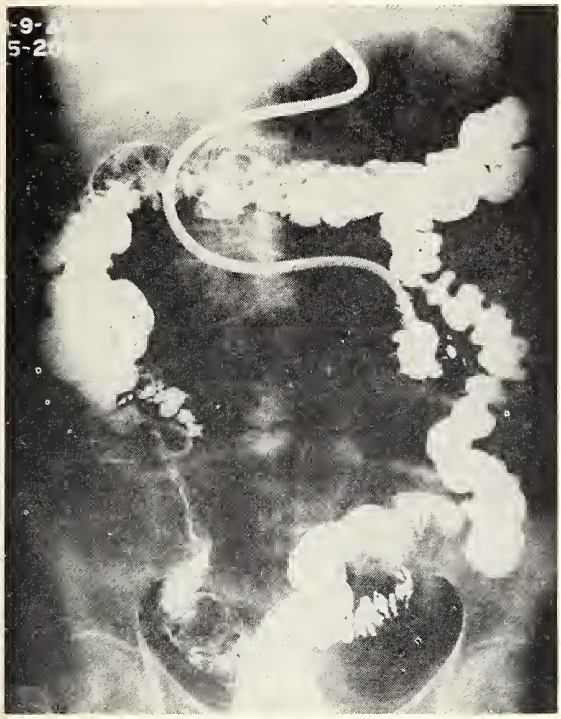

Figure (9). Reflux of barium into terminal ileum. Mass in ileum causing mechanical obstruction is phytobezoar.

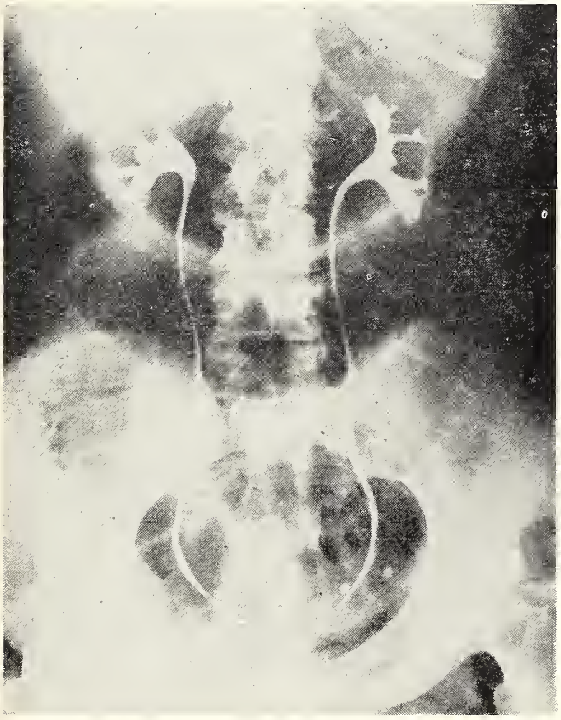

Figure (10). Gallstone ileus. Mechanical small bowel obstruction. Gallstone visible in pelvis minor.

small bowel obstruction. In the center of the pelvis minor a gall stone is clearly seen. Since two of the three signs are present, the diagnosis should be made.

On several occasions barium has been given when incomplete small bowel obstruction was present. This is a considerably over-rated danger and, in fact, in many instances is not a danger at all. Numerous patients have been operated on much earlier because barium was given inadvertently. This is not a recommendation for administration of barium in patients who have small bowel obstruction, but a re-evaluation of its dangers is in order.

Volvulus of the sigmoid is one type of obstruction in which the x-ray examination is pathognomic. In this condition there is usually a long loop of sigmoid colon which is able to twist through a hundred and eighty or more degrees. This, then, becomes a closed loop obstruction where the closed loop may be huge. It may appear to fill the entire abdomen. On occasions this becomes a double closed loop obstruction, since the bowel proximal to the obstruction is also a closed loop when the ileo-colic valve is competent. When one is familiar with the appearance, the diagnosis can be made from the anteroposterior film. There is a second type of volvulus of the colon in which the twisting is in the axis of the colon. This is usually the sigmoid colon also. It can be recognized on the barium enema since there is usually complete obstruction of the barium column in the sigmoid colon and there is an inverted cone-shaped defect visualized. On occasions, a small amount of contrast material is forced throughout this part of the obstruction.

The most common form of large bowel obstruction is that which is seen resulting from sigmoid obstruction. Most frequently this is a carcinoma of the sigmoid colon although diverticulitis with rupture and abscess formation is also a cause. Adhesions are a common factor. There is usually little difficulty in recognizing sigmoid obstruction. If one will observe the cecum, the colon is easy to follow and frequently the exact point of obstruction can be seen. Usually the plain films represent a sufficient study in large bowel obstruction. If desirable, it is simple to place a small amount of barium in the rectum and sigmoid and obtain information concerning the etiologic factor of the obstruction.

CONCLUSIONS

1. The roentgen examination is an important diagnostic study in intestinal obstruction.
2. The patient should have an anteroposterior and transverse film of the abdomen in a supine position.
3. The upright film is of little or no value.
4. The transverse film gives the same information obtained from an upright film, and also permits the diagnosis of small bowel volvulus when this condition is present.

Practical Management of Poliomyelitis

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THIS IS AN unseasonable time of the year to be discussing poliomyelitis; however, within the next few weeks most of you will be seeing or may already have seen your first case in 1952. We have all been taught that an epidemic means one to three cases per thousand population. This undoubtedly is true statistically; however, with the first case, especially when the public learns of diagnosis, you, as a physician, are immediately in an epidemic if such can be judged by the community reaction, newspaper and radio reports, or even by your own telephone calls.

Within the past decade the care of the poliomyelitic patient and the management of the disease as a community and parental problem has become so confused that many of us feel the need for complete reevaluation of the problem. To the average lay person the disease is too often associated with mystery, uncertainty, overwhelming epidemics, and justifiably so, paralysis and death. There are many obvious explanations for these exaggerated opinions. First, this is one of the leading offenders in producing the crippled child. With this perfect background, charitable organizations have done much to keep the disease and its crippling effects constantly on the minds of the public so that their fund-raising campaigns might be more successful. This effort has been so effective that the average parent feels that absolutely nothing is known about the disease and a common question is "When will you find out what causes it?" Actually, we know as such about the virus of poliomyelitis and the pathogenesis of the disease as we do about many infectious processes; however, we still do not have a prevention or cure, so all other knowledge is of little import to the average person The emotional trauma produced by this situation makes it extremely difficult for the parent and patient, but probably more important from the standpoint of medical care, it is almost impossible for the physician and public health officials to carry out their responsibilities in line with their current knowledge and better judgment.

Certainly we should do nothing to detract from the magnificent work that has been done and is still being done by the charitable organizations that I have spoken of and even the sensationalism of the Sister Kenny era brought some advances in the treatment of this disease. In spite of this, our feeling is that the public should be given more accurate and sound advice in regard to this problem.

First, exactly what should we advise? What should we tell parents who are simply worried over the possibility of their children getting polio? It is my opinion that they should be told that practically all persons have the disease at some time during their childhood but as a rule it is a very mild infection, often going unrecognized—that their children's lives and social activities should not be alerted every summer simply to avoid contact with this virus; that the infection is probably spread principally by fecal contamination, so general cleanliness is one of the best precautionary measures; and that many other factors, such as resistance, seem to determine the susceptibility of the child to the infection.

Now as to the parent who has a child in the early stages of polio. Very little can be done to allay the hysterical reaction of these parents; however, many things can be said to lighten the shock. Some seem to get consolation out of knowing that most patients do not develop paralysis, that as soon as the patient's temperature is normal the chances of paralysis are very slim and that after the febrile episode is over if the child is paralyzed he always gets better, never worse. It might be said, too, that many paralytic patients completely recover and 85 per cent show marked improvement in muscle function.

In regard to the question of hospitalization, parents usually feel that their child with poliomyelitis, though it be nonparalytic, must be cared for at a poliomyelitis center. From the practical standpoint this seems a bit unreasonable since the treatment of uncomplicated nonparalytic polio is centered principally around giving the patient complete rest and comfort. Certainly this can be accomplished more adequately in the home—an environment to which the patient is accustomed. This is often not accepted by the parents in spite of the terrific economic burden on the parents, the hospitals or the National Foundation for Infantile Paralysis which the public supports. Also it has been said that 25 per cent of all patients thought to have nonparalytic polio actually have one of the other encephalitides. These patients, if we could pick them out, certainly should not be placed in wards with polio patients. With all this, the policy of routine hospitalization seems to work quite smoothly as far as most people are concerned until major outbreaks occur. At this point poliomyelitis centers, usually of 25 to 125-bed capacity, can no longer cope with the problem and are forced to use selected admission policies. When this happens communities are thrown into chaos and situations approaching mass hysteria develop. The above illustration is not unusual at all and has occurred in hundreds of communities throughout the nation within the past ten years. Also, the situation is apt to arise more frequently since the incidence of polio is increasing over the entire nation and has been doing so for the past four years. More accurate diagnosis on the part of the physicians may account for some of this but most authorities believe that the increase has been actual. In order to emphasize some points that are being made, I would like to draw freely from our experience with polio during the 1951 season.

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[*] From the Department of Pediatrics, Vanderbilt University School of Medicine.

[*] Read before the Section on Pediatrics at the eighty-fourth annual session of the Mississippi State Medical Association, May, 1952.

SOURCE OF POLIOMYELITIS REFERRALS

Vanderbilt Hospital is a referral center for a rather large area, including middle Tennessee and southern Kentucky. Other hospitals in this particular area are reluctant to accept poliomyelitis cases and this, I believe, is a mistake since all general and private hospitals should take these patients just as they do others. The risk of cross-infection is negligible when good isolation technique is used. Nevertheless, early in the 1951 season it became apparent that we would have more polio referrals than we had had previously, even though we usually admit 100 to 125 annually.

This problem was presented before the Nashville Pediatric Society and this group came to the conclusion that only paralytic patients should be hospitalized and that in some instances the mildly paralytic could be treated in the home satisfactorily. Necessary nurses and aids would be sent into the home by the National Foundation for Infantile Paralysis and equipment, such as hot pack machines, etc., would also be available for use in the home. At the same time Vanderbilt agreed to set up a diagnostic service for all patients suspected of having poliomyelitis; in other words, any physician could send a child to the emergency room for blood counts, spinal studies, etc. If the patient was thought to have nonparalytic polio he was referred back to the physician for home care. This policy was approved by the National Foundation, the Public Health Service, representatives from all local hospitals, and other interested organizations. It was also agreed that this policy would be publicized in the newspaper, the radio, and that very effort should be made to give the public accurate information in regard to the management and characteristics of the disease. It was necessary at several times during the summer to reemphasize and republicize this stand, particularly in early August when we seemed to be admitting a few more nonparalytic cases than usual. These nonparalytic patients were for the most part either private patients or diagnostic problems. We can see from the charts that after a more firm stand was made this percentage of nonparalytics dropped off precipitously. All in all, 140 patients were hospitalized with a total of 20 nonparalytic cases.

SEASONAL INCIDENCE OF NONPARALYTIC POLIOMYELITIS

We have no accurate record of exactly how many nonparalytic and mildly paralytic patients were treated in the home; however, it is estimated that for every patient hospitalized one or more were under home care. Of this number under home care, 6 patients had to be admitted when they developed paralysis. This policy received practically no adverse criticism throughout the community; in fact, most parents seemed anxious to keep their children at home after the situation was explained. Everything went so well in 1951 that for the year 1952 the Nashville Pediatric Society has already readopted this policy and will continue as last year. The question naturally arises about the possibility of such a program resulting in more polio contacts. Every effort was made to keep an accurate record of this.

TABLE 1

Contact History

These were all the contacts that we were able to uncover. There were a total of 18 definite contacts within 21 days prior to the onset of symptoms and as can be seen seven families were involved with more than one case. I should add also that of the patients who were treated in the home, we have no record of other cases developing from contact with them. In other words, all of the contacts in this chart were patients who were together during the early stages of the disease before the diagnosis was established.

TABLE 2

AVERAGE HOSPITAL DAYS

Of the 140 hospitalized patients, every effort was made to get them back home as soon as possible providing physical therapy and rehabilitation facilities were present in the community. In most instances the parents were taught to give the exercises themselves and the patients were returned for periodic checks in our own Physical Therapy Department.

The following table shows the disposition of patients after leaving the hospital.

TABLE 3

PATIENT DISPOSITION

I might add that since the polio virus tends to spread in the central nervous system from one or more foci, we were particularly careful to admit those patients who had involvement of the arms. Many of these patients subsequently developed bulbar poliomyelitis or high cervical paralysis with involvement of the diaphragm and intercostal muscles. Patients with weakness of the legs or hips were often cared for at home.

As far as the treatment of hospitalized patients is concerned, I certainly think it important that all communities have a poliomyelitis center where seriously ill and extensively involved patients can be treated, especially those with respiratory difficulties. This is most important since these latter patients need constant observation, repeated blood electrolyte studies, specially trained nurses, and expensive respirator equipment which cannot be obtained in all hospitals. I will not go further into the treatment of bulbar polio.

As far as we are concerned, the treatment of paralytic non-bulbar poliomyelitis is very simple and centers mainly around bed rest and comfort. If the patient is relieved by the application of moist heat in the form of "drop-on" hot packs, this is used. Patients who dislike hot packs were not made to tolerate them. I would say that of the ones with extensive muscular sensitivity approximately one-half to three-fourths are more comfortable after having moist heat applied to the sensitive parts. The avoidance of fixed positions of the extremities is important during the convalescent phase but during the febrile period most patients change their positions frequently enough that this is not a major problem. Psychotherapy in the form of cheerful, encouraging and helpful personnel is most important.

Physical therapy usually is begun after the temperature is normal and after the phase of muscular sensitivity is past. This is usually given in the form of passive exercises and every effort is made to prevent exhaustion of the patient during the early convalescent period. No attempt is made to give the patient a complete muscle evaluation until the temperature remains normal for 24 hours. Prior to this time one should be satisfied to know where in general the weakness or paralysis is. Patients are observed closely for the development of bulbar manifestations or involvement of the high cervical cord.

As to the diagnosis of polio, we were very interested in how accurately physicians diagnosed the disease. For that reason every effort was made to keep up with these data.

TABLE 4

REFERRING DIAGNOSIS OF 140 POLIOMYELITIS CASES

These happen to be the 140 hospitalized cases of poliomyelitis whom we thought had polio after sometimes a rather long period of observation. Even after a period of observation, we have made mistakes and that some of the patients that we have called poliomyelitis undoubtedly had other forms of encephalitis. It can be seen from the above chart that most of these patients were diagnosed accurately; in fact, to a rather remarkable degree. Most of the misses that are recorded here are quite understandable.

TABLE 5

REFERRED AS POLIOMYELITIS WITH OTHER DISEASES

On the other hand, we find that many patients were seen in the emergency room having had a diagnosis of poliomyelitis but who turned out to have other diseases. These are recorded above and I might add here that it was again necessary to admit many of these patients to the hospital before an accurate diagnosis could be established. I have very few suggestions as how to improve a batting average that is already quite good. In going through our records, however, I think the following facts may be of some interest.

TABLE 6

OTHER FACTORS OF INTEREST

From this we can see that the peripheral white blood count is of no value whatsoever in the diagnosis of polio. Also it can be seen that many patients apparently have poliomyelitis without having a spinal fluid pleocytosis. In other words, 10 cells or less were found in a total of 10 cases. I believe that this is consistent with other reports and I might add that all of these patients developed paralysis at some phase of the disease. Twenty-five per cent of these patients had a prodromal or a biphasic clinical course; in other words, their febrile period was preceded by a few days of respiratory or gastrointestinal symptoms followed by a period of 24 to 72 hours of normality. The incidence of this prodromal type curve, I believe, would have been greater had our histories been more complete. The prodromal type curve may be seen in the following illustration.

CHART 2

PRODROMAL CURVE

I believe it worth while mentioning a few of the developments and interesting questions that have arisen over the past few years or months. In our community and I am sure in yours, the question of whether or not to do oral surgery, mainly tonsillectomies and adenoidectomies, during the summer months has always been a controversial issue, especially when a pediatrician and an otolaryngologist get together. I believe it has been shown conclusively that T. and A's do not increase the incidence or the chances of a patient having poliomyelitis but if he should have the disease a recent T. and A. will increase the possibility of his having bulbar poliomyelitis. For this reason, T. and A.'s should not be done during an epidemic and it is my opinion that whenever possible this and other operative procedures about the mouth and throat should be delayed until the winter months.

It has also been said that the female who is pregnant has a greater chance of developing clinical poliomyelitis than one who is not. I believe this, too, is well established, but probably of no practical value as one would not and could not prevent pregnancy during the poliomyelitis season. Of seven married females admitted to Vanderbilt with poliomyelitis during 1951, two of them were pregnant.

Much has also been said about the hypothesis that patients who experience unusual fatigue, exposure or other physical insult during the prodromal phase of the disease are apt to have more extensive paralysis. Arguments both pro and con have been inconclusive; however, it seems reasonable that until the question is settled any patient with possible prodromal symptoms in areas with high poliomyelitis incidence should be put at rest. It is theoretically possible that by doing so we may help to prevent the paralytic phase of the disease.

Recently also we have heard much about the advisability or inadvisability of immunizing children during the poliomyelitis season and particularly during epidemics. This has come principally from the Australian and English literature and was convincing enough that the city of New York among others completely suspended their immunization program during the past summer. It was said in these reports that patients who had received injections of vaccine within six weeks prior to the onset of their illness were more apt to have paralytic complications and that such paralysis was likely to occur in the muscle group into which the injection was given. Many large studies are now underway in this regard and most of us are standing by and awaiting conclusive proof. Until then it is probably advisable to continue our excellent program of immunizations when we have only the usual incidence of poliomyelitis. During real epidemics we should moderate this to the point of immunizing as usual the young infant who has had some protective immunization from the mother but not giving injections to children over six months of age, the point at which the usual incidence of polio increases. I might add that in the past year we continued our immunization program as usual.

I think it interesting that each year we are seeing the disease attack patients of an older age group. This seems to be the natural history of the disease when it is introduced into a country and with the following chart this point can be illustrated in our own experience at Vanderbilt.

CHART 3

AGE GROUPS

For the past few years it has been increasingly evident that most patients with paralytic polio have hypertension at some point in their disease. This has been of tremendous interest and during 1951 all of our bulbar cases had some degree of hypertension. Approximately 50 of our paralytic nonbulbar cases had hypertension.

CHART 4

HYPERTENSION IN BULBAR POLIOMYELITIS

In conclusion something should be said in regard to the tremendous strides that are being made in the research aspects of the disease. The work of Robbins and Enders in cultivating this virus in tissue culture opens up a complete new field of research giving us a method of growing the virus without having to use animal inoculations. In addition to this the work of Bodian and Horstman in isolating the virus from the blood streams of patients prior to the onset of any clinical manifestations give an entirely new approach to the problem since all previous efforts have been directed towards the investigation and treatment of the patient after the development of clinical symptoms. Just how one could go about doing this I certainly do not know; however, with such tremendous progress having been made the past year I believe that it quite safe to expect that within the next five-year period means of preventing the disease will be a reality.

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Chronic simple glaucoma is undiagnosed in one out of every forty people 40 years of age or older. Unsuspected glaucoma may be precipitated by the use of atropine, belladonna, and many of the newer autonomic blocking drugs. These drugs have a tendency to increase intraocular pressure and thus bring on an attack of heretofore clinically unrecognized glaucoma.

Analgesia and Anesthesia with a New Anesthetic Agent

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Paris, Tennessee

THE PURPOSE of this paper is to discuss an anesthetic agent which is relatively new in this country, and its application to medicine, surgery, and obstetrics.

Trichloroethylene, or as it is better known, "trilene", has been used for three or four years here in the United States, having been imported from England, where it has been used for about twelve or thirteen years. It should not be confused with commercial trichloroethylene, which is not suitable for analgesia or anesthesia.

Trilene is a clear, volatile liquid with a pleasant, slightly pungent odor. If mixed with pure oxygen, an inflammable mixture may be produced at temperatures higher than 25.5° C. (78° F.), therefore trilene-air mixtures should be used if there is any danger of ignition. Under no circumstances should trilene be used in a closed circuit with soda lime, due to decomposition, and formation of poisonous chloroacetylenes.

Numerous articles have appeared in British and Canadian literature in the past ten years of experiences with trilene, and all have shown very satisfactory results. Both in the literature, and in my own experience, there is usually no significant change in blood pressure, less capillary oozing than with ether, and variation in pulse rate is usually bradycardia rather than tachycardia, with extra systoles fairly common. Tachypnoea may occur frequently at any stage, due either to deepening anesthesia, or to increased excitability of the pulmonary stretch receptors. Trilene is not irritating, and no troublesome secretions accumulate. Post-anesthetic vomiting is reported to be rare, and I have not seen a case due to the trilene since I first began using it in April, 1951.

Hutton, in 1948, reviewed 2,354 cases of the use of trilene; Hyatt, Elam, and Gardner, in 1947, reviewed 300 home deliveries in which adequate analgesia was achieved without the slightest harm to mother or baby; and, Elam, in 1942, reviewed over 1000 cases in a general series. Ostlere, in 1948, had had experience with over 40,000 cases, and found it excellent for either major or minor surgery.

Amnesia occurs in nearly all cases of trilene usage, whether used alone, or in combination with other anesthetic agents.

Trilene stands almost alone in the field of of analgesia, there being no other drug with which analgesia can be produced so easily, so quickly, so efficiently, and so cheaply, with absolute safety, and with minimal after effects. It is definitely recommended for obstetrical analgesia, using the small compact Cyprane inhaler, which gives the safe trilene-air mixture. With intermittent use of the Cyprane inhaler during the first stage of labor, pains can be controlled so that seldom has it been necessary to use any barbiturates, opium derivatives, or demerol. With its use there are no depressing effects on the baby, and patients have been enthusiastic in its use. The inhaler is prepared for use by pouring 15cc. of trilene into the cylinder through the screw cap opening at the bottom, and applying the face mask, after which the patient is asked to take several inhalations. The concentration is then adjusted to fit the particular needs of the patient by turning the collar of the inhaler to permit more or less air to flow through the air intake valves. Intermittent administration is continued with the pains until delivery is eminent, at this time the concentration being increased, and continual administration carried out. Most all spontaneous deliveries can be handled very satisfactorily in this manner, and many cases of outlet forceps. In my own series of over 100 cases, when episiotomy has been performed, this has been repaired with the continued use of trilene only. In cases where it is necessary to switch over to some other anesthetic agent, this can be done very smoothly, whether to cyclopropane, ether, or nitrous oxide.

Restlessness has been noted, especially in emotionally unstable patients. It is usually due either to inadequate analgesia, or to the production of second stage anesthesia, and occurs less frequently as one becomes more experienced in the use of trilene.

Trilene is satisfactory for almost all manipulations except versions. It has very slight, if any, effect on the uterine musculature, therefore, if uterine relaxation is needed, it is necessary to change to another agent.

Trilene is also very valuable as an analgesic agent in many minor operations and dressings. It is especially useful in treating burns, and changing burn dressings, reduction of fractures, incision and drainage of abscesses, suturing of superficial wounds. It has been found useful in pediatrics, both as an analgesic and as an anesthetic. For instance, some children who are severely emotionally upset by a visit to the office for an injection, readily inhale a small amount of trilene, and while in an analgesic state, the injection can painlessly be carried out.

Although dentistry is not within the scope of this paper, trilene has a very wide application in this field for auto-administration with a special type of apparatus.

Trilene has a definite place in the field of anesthesia. There are several types of vaporizers for attachment to the regular anesthetic machines, whereby trilene may be used for induction only, or as the anesthetic agent only, or used as an adjuvant to nitrous oxide, oxygen, and carbon dioxide, or ether, of any other agent. In general, its non-inflammability, reduced capillary oozing, and absence of post-anesthetic vomiting make it valuable in major surgery, such as thyroid surgery, mastoidectomy, breast excision. Although trilene alone will not give profound muscular relaxation, it has been found that once muscular relaxation has been achieved by the addition of ether or cyclopropane, or intravenous barbiturates, this relaxation can be maintained for fairly long periods of time by trilene alone, after withdrawal of the more potent agent.

Trilene gives a very smooth induction, in a very short time, after which it may be used as stated above. It is quite useful in neurosurgical procedures where a light level of anesthesia is used, having no effect adversely on blood pressure, absence of toxic effects, absence of anoxemia, and lack of explosion hazard. It should again be stressed the trilene should never be used in a closed circuit with soda lime.

In my hands, trilene has been very satisfactory as an agent for analgesia, and anesthesia. Its use is fairly simple; in the usual obstetrical patient, up to the point of delivery, the Cyprane inhaler is in her hands, literally and figuratively. The patient is told to hold the inhaler in one hand, either right or left, whichever is more convenient; the inhaler is then strapped to the wrist by means of a plastic or leather band from which a chain is attached to the filling cap of the inhaler; the patient is then told to take several inhalations, being warned about the peculiar odor. After the first few inhalations, the period of adjustment, the patient is told to use it with her pains; when she feels the pain starting, to put the mask over her face and inhale deeply; when the pain begins to fade, to remove the mask. With this manner of use, there is no way for the patient to get too much trilene in three, four, or six or more hours of use, because when they have inhaled enough to produce somnolence, the hand drops the mask off the face. When, as sometimes happens, the patient braces the hand and arm so that the mask does not fall, the person attending, nurse, relative, or other, can remove the mask when several inhalations have been taken, or the contraction is over. With this type of use, barbiturates, and opiates, are unnecessary. Increasing experience with it makes it easier to judge the concentration necessary for the desired results.

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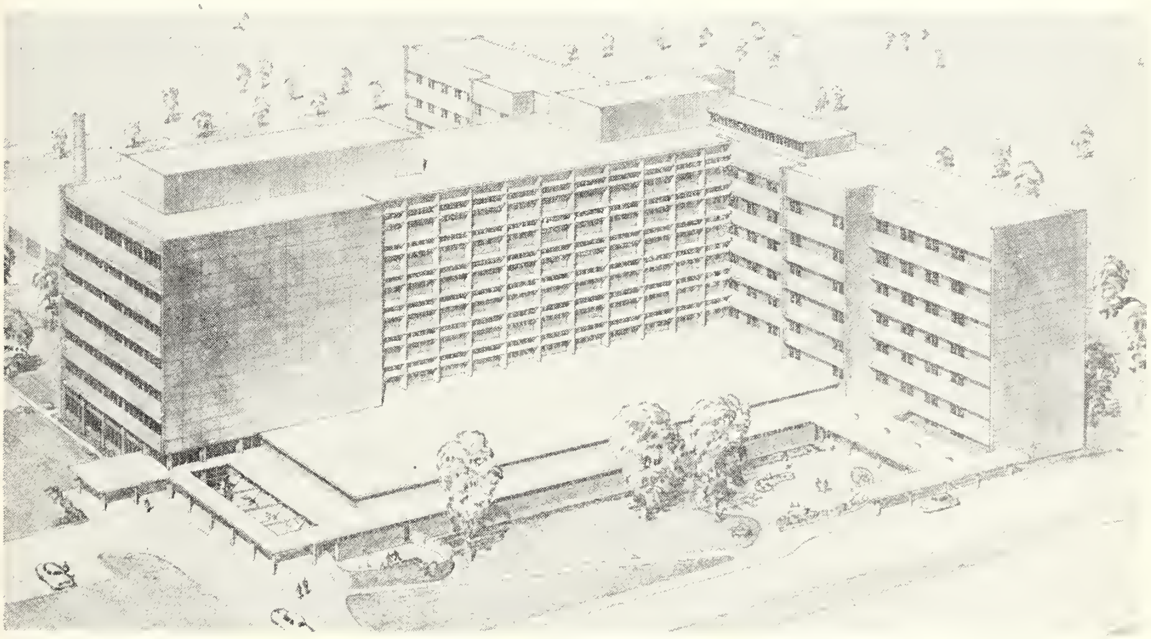

CONSTRUCTION TO BEGIN ON NEW MEDICAL SCHOOL
JACKSON, MISSISSIPPI

The above architect's drawing depicts the proposed new Mississippi medical school and teaching hospital, for which bids have been received and an award for construction will be given in November.

Indications for Cesarean Section

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The increased safety of cesarean section in recent years as a result of improvement in surgical technique, the antibiotics, the blood bank, and a broader knowledge of anesthesia has resulted in a re-evaluation and hence a broadening of the indications for its use. Many times when there is a change in medical concepts there is a tendency for the pendulum to swing too far in the opposite direction; therefore, at this time we must beware of over utilization of the operation. Maternal mortality has steadily decreased but we must still consider cesarean section as a major operation and remember the morbidity rates and postoperative complications. Delivery through the natural passages is still the most desirable goal but is not desirable at any cost.

This subject touches a large amount of material for there is hardly an obstetrical complication that has not been treated at one time or another with section. Also, it is realized that there have always been differences of opinion—different schools of thought. Now that the trend is toward a broadening of indications, there will of necessity be more differences until time and experience have stabilized our views.

Cephalo-pelvic disproportion of sufficient extent to offer an obstructive barrier to fetal exits is the most frequent indication for abdominal delivery. If the true conjugate of the inlet is 5.5 cm. or less, not even a dead fetus of any size can be delivered even with destructive operations. If the true conjugate is 8 cm. or less, there is such a slight chance of a normal size child being born alive through the natural passages that cesarean section should be done as an elective operation at or slightly before the onset of labor. When the true conjugate is 8 cm. or over the baby is not oversized, the possibility of delivery through the natural passages is usually sufficient to warrant a trial of labor. By a trial of labor it is meant that the patient be permitted to go into spontaneous labor to see what the uterine contractions will accomplish. An arbitrary time limit for trial of labor is somewhat untrustworthy. The physician must be guided by the progress a given patient makes rather than by time. Usually in a few hours one can tell whether a baby can be delivered through the vagina. Obviously the more contracted the questionable pelvis is the sooner the decision can be made. While the patient is having a test of labor, examinations should be kept at a minimum. If the membranes rupture, a decision must be made within a few hours because the more manipulations and the longer the membranes have been ruptured before the operation the higher the maternal morbidity and mortality. As pointed out, a time limit on a test of labor is untrustworthy, and different men have set different time limits. In most cases the decision can be made in 12 hours or less, and certainly not over 18 to 24 hours.

The arbitrary figure of the true conjugate cited above for a trial of labor merely gives something concrete to think of in a discussion of this type. Actually the pelvis is evaluated from a clinical standpoint and certainly the questionable cases are further studied by x-ray pelvimetry. Depending on the size of the fetus, a patient with a true conjugate of 9 cm. or 9.5 cm. may have a definite disproportion which indicates elective section. However, regardless of how carefully the pelvis is evaluated by even the most experienced obstetrician, there are border line cases, and a trial of labor is necessary before a decision can be made.

Outlet contractures are extremely rare. Where the transverse of the outlet is less than 6 cm. or the combined sum of the transverse and the posterior sagittal diameter is less than 13 cm., a cesarean section must be performed. There is no test of labor for outlet contractures. Fortunately high grades of outlet contractures are rare.

Obviously, congenital or acquired pelvic deformities causing contractions not compatible with delivery of a normal living fetus should be mentioned.

Under the general heading of other types of dystocia or possible dystocia a rather heterogeneous group of conditions will be discussed.

Certain malpresentations of the fetus in which dystocia may be anticipated are indications for abdominal delivery. Examples are transverse or shoulder presentations, brow or face presentations especially if the fetus is large, the patient's pelvis relatively small, or if the patient is a primigravida so that her ability in respect to labor and delivery is still untested. In this category should be mentioned cases in which there is a breech presentation in a primigravida over 40 years of age.

Multiparas with history of difficult labor, and delivery of a dead or traumatized fetus due to hard or soft tissue dystocia should be considered as candidates for section; for example, certain constitutional types like those patients with dystrophia dystocia syndrome.

Dystocia due to anomalies of the soft parts is more frequent than is commonly thought; but dystocia due to soft parts can usually be overcome by ordinary methods. Only very occasionally does one see a cervical dystocia that makes abdominal delivery necessary from a cervical stenosis caused by a scar tissue formation after an inflammatory process on some surgical procedure. Usually this decision must be made after a reasonable test of labor.

Occasionally stenosis of the vagina may present an insuperable obstacle to delivery, and cesarean section will be indicated. These cases are rare. In this connection, however, cases following successful closure of vesico-vaginal or recto-vaginal fistula, or repair of long standing incontinence, or successful repair of old third degree lacerations should have abdominal delivery, not because it is impossible to deliver the baby per vagina, but because it is to the patient's best interest to perform a section rather than take the chance on breaking down the previous repairs.

An incarcerated or herniated uterus or ventrofixation or vagino-fixation of the uterus may cause an insurmountable dystocia and require cesarean section.

Very occasionally delivery with section may be necessary because of a persistent pathologic retraction or contraction ring which cannot be overcome by usual means (medicinal or deep anesthesia).

Much difference of opinion exists as to whether previous cesarean section within itself is an indication for repeat section. Some eminent obstetricians still believe that the fact that a woman has had one cesarean section does not always necessitate another in subsequent deliveries.

I adhere to the school of thought that the old dictum "once a cesarean always a cesarean" is in general the safer procedure. The rationale is the possibility of rupture of the old uterine scar plus the fact that cesarean section now because of modern advancement as numerated previously is a much safer operation than in the past. I believe that the morbidity and mortality will be less in the overall picture when we adhere to this policy. Obviously, one cannot follow this policy in every case—for example, given a multiparous patient with a 8 cm. dilation, station plus 2, and good uterine contractions every 2 or 3 minutes.

Because of the same reasoning patients that have had previous extensive myomectomies should have abdominal deliveries. All are agreed that where there is a threatened or actual rupture of the uterus with or without previous surgery a cesarean section is necessary.

Tumors arising from the pelvic wall in the form of neoplasms or exostoses and tumors arising from the ovaries, uterus or vagina, which obstruct the parturient canal, may require cesarean section. Also tumors from environmental structures such as bladder and rectum can make abdominal delivery necessary because of obstructions.

In addition to the obstructive aspect tumors as well as other abdominal conditions requiring prompt operation at or so close to term that a subsequent labor would be contraindicated, such as an acute torsion of a pedunculated tumor, are indications for section.

Genital tumors which may cause a serious hazard to the mother from the birth process are indications for section. For example, carcinoma of the cervix indicates cesarean section although there may be a difference of opinion regarding removal of the uterus following delivery.

Placenta pracvia and abruptio placenta are conditions which may indicate cesarean section because of genital hemorrhage.

Cesarean section is the procedure of choice in cases of central placenta praevia and in cases of partial placenta praevia in which the cervix is long and closed. Antenatal hemorrhage of this etiology cannot be successfully controlled, as a rule, by an expectant policy; therefore, a delay in instituting steps to empty the uterus by cesarean will certainly court disaster, not only for the fetus, but for the mother as well. There are some who do cesarean section in all cases of painless bleeding with a viable fetus without doing a sterile vaginal examination first. It is my policy in these cases to have blood available and preparations made for immediate cesarean section, then do sterile vaginal examination to make the diagnosis and at the same time to determine the procedure of choice for the individual case. In cases of central placenta praevia or partial placenta praevia with undilated cervix immediate section is done. In cases with a dilated cervix and findings conducive to easy delivery from below the vaginal delivery is the procedure of choice. By this procedure many patients will be spared section and at the same time be handled safely.

Abruptio placenta is an indication for cesarean section when there is complete detachment of placenta and the cervix is hard and undilatable. When separation is not complete the operation is usually indicated in the interest of the fetus provided other conditions are favorable to the success of the operation. Obviously blood in large amounts should be available and used as the patient's needs require. Cesarean section has the advantage in severe cases of complete separation with Couvelaire uterus in that it gives the operator direct observation as to whether the uterus will contract with oxytocics or remain flaccid and thus necessitate cesarean hysterectomy in one form or another.

In considering the role of cesarean section in the true toxemias of pregnancy the following points should be mentioned.

In occasional cases of pre-eclampsia that are becoming progressively worse in spite of ideal medical hospital treatment section is used to terminaet pregnancy before eclampsia develops. Patients with eclampsia should be treated medically until brought under control and then the patient should be delivered by the easiest way possible, i.e. if the cervix is ripe and after careful evaluation, induction with vaginal delivery; but if vaginal delivery is thought not to be easily induced or readily accomplished, then cesarean section done under continuous caudal or spinal anesthesia is the procedure of choice. This type of anesthesia not only gives the best anesthesia for the section but is also a therapeutic measure to control the convulsions, and may be continued as indicated after the operation.

It is impossible to enumerate all conceivable medical complications that might call for abdominal delivery, but 3 of the most common will be reviewed.

In certain patients with severe rheumatic heart disease and certain severe H.C.V.D. with cardiac decompensation, the risk of cesarean section may be less than the risk of delivery through the natural passages. It must be remembered, however, that no operative procedure should be done until the patient has recovered from the decompensation.

At the present time it is felt that diabetics should be under rigid dietary control, proper insulin therapy, and receive large doses of stilbestrol during the pregnancy with termination of the pregnancy at about the thirty-seventh week with cesarean section.

Pregnant patients with chronic nephritis should be watched very closely, and those that show signs of progression of the disease may have to be terminated by hysterotomy, or cesarean section if the stage of viability is reached, and labor cannot be easily induced and accomplished. Block anesthesia of some sort is the anesthetic of choice, and sterilization in most instances should be done.

Indications for cesarean section must always be evaluated in light of certain contraindications; therefore, the following should be mentioned:

Dead baby, except in rare cases that have been discussed previously.

Monstrosity except when hydrocephalus is associated with central placenta praevia.

Uncontrolled eclampsia.

Exhaustion, or exsanguination until overcome.

Infection anywhere in the genitalia or abdominal wall, excessive vaginal manipulations, active labor for long time after rupture of membranes, or fever during labor.

The keenest of obstetrical judgment is required at times to determine conservatively why and when to operate, what type of section to select, and how to avoid infection before and during operation. The attitude that any difficult labor may be ended satisfactorily by cesarean section is not that of a well trained physician. It requires infinitely more skill to decide correctly whether it is necessary or not to operate and what type of cesarean section to do than it does to do the actual surgery.

BETTER TO SERVE . . .

This October issue of the *Mississippi Doctor* is the first to be printed in the new journal plant. The mechanical equipment is the most modern in the state. We trust that with its vastly improved printing facilities its potential for service will be as appreciably increased.

The Mississippi Doctor staff wants the help of every doctor and advertiser in making it an unexcelled medical organ. It wants the views of the rural practitioner and the urban specialist alike. It wants to be first in publishing advances in the practice of medicine. Case reports, research, constructive ideas, excerpts from medical literature, and discourses on any facet of the practice of medicine—all are welcome to its columns that it may become a complete service organ. It is wholly dedicated to the march of medicone and the building of health assets throughout Mississippi and the mid-South. Let the eyes of the nation rest upon us!

Acute Petrositis and Mastoiditis in a Patient Presenting Certain Unusual Diagnostic and Therapeutic Problems

E. W. EBERLING, M.D.
Starkville, Mississippi

THE PURPOSE OF this paper is to discuss some of the diagnostic problems occurring in a patient with acute suppurative disease of the temporal bone and the chemotherapeutic management of this infection.

During most of the winter and spring months the pediatrician is confronted many times with the problem of acute catarrhal otitis media inasmuch as it is one of the commonest complications of the upper respiratory tract infections seen during these months. Ordinarily such patients respond readily to the usual office procedures of intramuscular injections of penicillin procaine, with or without oral treatment at home by sulfonamides or oral penicillin preparations, and benzocaine-glycerin "ear drops". The dosages of such preparations vary widely from physician to physician and as the following case report will illustrate, may or may not be sufficient to result in a cure. Furthermore, the follow-up observation on an acutely infected ear is all important in helping the physician to know whether or not the child needs additional care, and what complications may be developing.

CASE REPORT

An 18-year-old white female was first seen by her physician on 12-23-51 at which time she was complaining of severe pain in both ears, had a temperature of 101° (oral) and an "acute pharyngitis". She received a single injection of 600,000 u. procaine penicillin G aqueous suspension intramuscularly and was given some phenol-glycerin ear drops. The following day she still complained of very severe ear pain and received another injection of procaine penicillin G, 600,000 u. aqueous suspension and a "hypo" for pain. On the following day 12-25-51 she was symptomatically improved and out of bed. She continued to be up and about though her ear pain never entirely disappeared during the ensuing days until 1-11-52 when it became worse. She then voluntarily went to bed though the physician was not called. On the following morning 1-12-51 she arose complaining of bilateral ear pain, occipital headache and dizziness, but went to the breakfast table where she suddenly fell to the floor unconscious.

I first saw the patient at home, in bed, immediately after this episode. At that time she was semi-stuporous, had normal pupils and fundi; markedly hyperactive but bilaterally equal tendon reflexes; would not respond to questioning but moved in respone to painful stimuli; showed no definite localizing signs; no "acetone breath" and had a normal temperature, respiration and blood pressure. There were no purpuric or other hemorrhages visible.

She was then transferred to the pediatric service of the Felix Long Memorial Hospital where the following laboratory studies were done: Blood WBC-27,400. 94% PMN's., 5% lymph., and 1 mono. Fasting blood sugar 88 mg. %. RBC 4.5 million; HGB-12.60 gms. Spinal fluid - sugar 81 mg. %; protein 139 mg. % and cells - 1 mononuclear. Gram stain of centrifuged spinal fluid showed no organisms. Cultures of blood and spinal fluid sterile. Urinalysis - Sp. gravity 1.029, occ. WBC, occ. epith. cell, negative albumin and sugar, negative acetone.

Within 30 minutes after being admitted to the hospital she had a generalized convulsion of the grand-mal type without localizing signs and which lasted approximately three minutes. She became cyanotic and the temp. rose to 101° (oral). Alcohol sponging and sedation controlled the convulsion. Three hours later she had a series of four generalized tonic and clonic convulsive seizures which were noted to have begun in the musculature of the face and neck. These were controlled with sedation. During the next few hours it was noted that she was developing a paresis of the right arm and leg. Swallowing was normal. Both ear drums were acutely inflamed but not perforated or bulging. X-ray films of the temporal bones were taken and revealed thickening of the bony trabeculae in the left mastoid antrum with some haziness of the air cells, and slightly decreased density of the petrous ridges. The right temporal bone appeared normal.

Chemotherapy was instituted in large dosages as follows: 1) penicillin potassium crystalline 600,000 units every 8 hours; 2) aureomycin 100 mg. intravenously on admission and 300 mg. every 3 hours by mouth; 3) sulfadiazine 3.0 gms. initially and 1.0 gm. every 4 hours. Intravenous fluids were provided to meet requirements of glucose, saline and water.

During the following 24 hours paresis of the right arm and leg became somewhat more marked. The pupils and optic discs remained normal but she continued to require sedation for the management of her frequent, short-lasting, though severe convulsive seizures. A repeat spinal tap on 1-13-52 revealed a protein of 145 mg. %, sugar 100 mg. %, 1 mononuclear cell, no organisms on smear or culture, no pellicle formations and a normal chloride. The spinal fluid pressure was normal and a Queckenstedt test was normal for exclusion of blockage of the lateral sinuses. A tuberculin test applied on admission (1:1,000 O. T.) was negative. A chest x-ray was negative, and no abnormal physical findings other than those pertaining to the CNS were observed.

On 1-15-52 the patient roused slightly to painful stimulations and made coordinated movements of her arms and legs in scratching her skin. The temperature had reached normal, the WBC was 12,600 with 78% PMN's, 21% lymphs. and 1 mono.

Clinical improvement from that time was rapid. All convulsions ceased, and by 1-19-52 she was able to sit up, talk and eat, and the WBC was 8,600 with a normal differential. Both ear drums showed marked clearing of inflammation, though the left one remained somewhat injected. At no time was there bulging of the drum or exudate visible behind it.

For a period of five days the patient revealed a recent memory loss apparently dating to a period just before becoming ill on 12-23-51. During frequent observation for four months she has shown completely normal performance and her usual good state of health, with complete return of normal function. She was kept on chemotherapy with aureomycin daily for six weeks following discharge, at a dosage of 250 mg. twice a day. No ill effects were observed.

Repeat spinal fluid examination two weeks after discharge revealed a return of all normal values.

DISCUSSION

Among the possible diagnoses to be considered in this patient there were: lateral sinus thrombosis, meningitis, brain abscess, encephalitis, and tuberculous infections. From the history and physical examination it was apparent that the patient had an acute, extensive, bilateral middle ear infection which had produced cerebral complications. There had been time since the onset of disease for the formation of an abscess or a lateral sinus thrombosis but the normal spinal fluid pressure and normal cell count made this unlikely. The same holds for meningitis and brain abscess there having been repeatedly normal Queckenstedt tests. Also repeated attempts to demonstrate tuberculosis were unsuccessful.

It was therefore concluded that the inflammatory process had not produced an actual infection of the brain or the meninges but had progressed to the point of irritating those tissues adjacent to the left petrosal and antral cells.

The question of instituting surgical drainage then arose but was decided against due to the rapid improvement on adequate medical treatment under close supervision. Also a factor here was the lack of widespread destruction in the temporal bone on x-ray examination; the changes were those of early infection. The rather markedly elevated spinal fluid protein was due in all probability to irritation of the meninges overlying the petrosal and antral cells. It was interesting to note that this patient at no time showed a meningismus.

SUMMARY

The mastoid antrum and petrosal cells have long been known to be the source of dangerous complications from an acute, chronic middle ear infection. Lateral sinus thrombosis, brain abscess, meningitis and acute or chronic petrositis, are among those which have been seen.

Since chemotherapy for infections has progressed so rapidly as to perhaps give one the feeling of great security insofar as the treatment of an acute otitis media is concerned, it is important to realize that one or two doses of a given agent may be far from sufficient to prevent such complications. In handling any agent for the control of infection one is charged with great responsibility for its proper use. A certain tendency to rely upon "a shot of penicillin" for a cure is, therefore extremely dangerous.

Ideally, infectious diseases today are best managed in the first 48 hours by a combination of chemotherapeutic agents such as penicillin, sulfonamides, and aureomycin or some other combination deemed best at the time by the clinician until culture and sensitivity tests of the infecting organisms are obtained. At that time a decision may be made to eliminate one or two agents and continue with the single agent known to be most effective against the organisms found. If bacteriological facilities are not available it is probably best to continue a multi-drug approach at least until the patient's temperature and WBC are normal. This would tend to prevent the development of resistant strains of organisms to one drug plus giving the patient the best chance of recovery. A case report is presented to illustrate these points.

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Use of a new broad-spectrum chemotherapeutic agent, furadantin, has cleared up certain kidney and bladder infections that were unresponsive to intensive treatment with antibiotics, Dr. Charles E. Friedgood of Brooklyn reported to the American College of Surgeons, meeting at the Hotel Waldorf-Astoria in September.

The drug is the first of the nitrofuran family to be developed for systemic use in human beings. The report covered 22 patients who were treated for cystitis and pyelonephritis. Clinical and laboratory cures were reported in 14 instances and cure of symptoms in the other eight. There were no failures. In each instance, the infecting bacterium was the proteus organism.

"The results of this study," said the physician, "indicate furadantin to be a safe and effective drug, giving relief of all urinary symptoms without any toxic effects. No cases of sensitization to furadantin occurred."

Frozen Orange Juice "Nutritive Equal" of Fresh

Frozen concentrated orange juice made from properly selected and prepared fruit is a dependable source of vitamin C and may be useful in the diets of persons of all ages, states the Council on Foods and Nutrition of the American Medical Association. "In fact," says Council report, "it may be considered as the nutritive equal of fresh orange juice. Thus, it will meet the need for Vitamin C intake in the diets of all persons, including infants."

Mississippi Baptist Hospital

Mrs. Karenza Gilfroy

JACKSON, MISSISSIPPI

Mrs. Karenza Gilfoy

The Mississippi Baptist Hospital was begun in a seven-room antebellum frame residence located on the southeast corner of North State and Manship streets in Jackson, Mississippi. A look into the back files of the hospital show that the firm of Drs. H. R. Shands and John Hunter converted this residence into a hospital and operated it as such. It was given by them to the Baptist denomination approximately January 1, 1911 and has been operating as the Mississippi Baptist Hospital since that time.

With this small beginning, there followed year by year and step by step additions and developments which insured progress with which few hospitals in the country can compare.

On Thanksgiving Day, 1914, a new and then modern building which is a part of the present north end of the hospital, was opened for service. In 1922 the building was enlarged by addition of another story and ten rooms in the rear and again was enlarged in 1929 by the addition of an imposing annex on the south side of the building. This is the present middle annex of the hospital and is the section in which the lobby is located. In 1938 the Green Annex was built at a cost of $100,000, which made forty five beds available for the colored people on the first floor; dining rooms and kitchens on the second floor, maternity department on the third, and laboratory and x-ray departments on the fourth floor. In 1945 the five-story newest addition on the south side of the hospital was started and is now completely finished and entirely in use.

This latest completed addition includes facilities that place the Baptist Hospital in the group of the finest general hospitals in this part of the country. Its fifth floor contains a modern, well-equipped surgical department with six major operating rooms and eight minor operating rooms. This surgical department offers surgeons of every major field ample facilities in which to practice their specialty, thereby offering to the citizens of Jackson and the state whatever highly specialized medical care they need.

This addition also includes in its first floor a new emergency department which has proved to be one of the most helpful and important departments in the hospital. In addition to this new annex, the laboratory department has been completely remodeled, redecorated and re-equipped and is now one of the finest clinical and pathological hospital laboratories anywhere. Within the past three years the x-ray department has been completely redecorated, completely remodeled and partially reequipped.

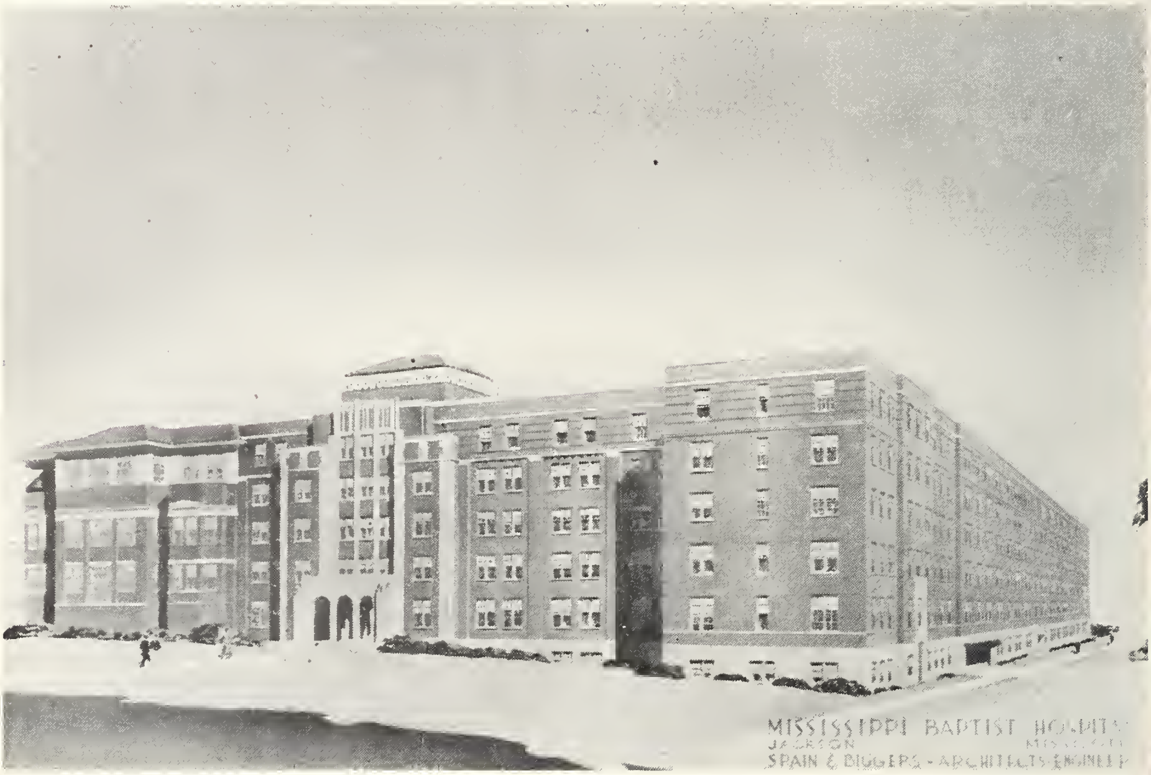
Certainly the Baptist Hospital's growth has been phenomenal when it is realized that from its small beginning of seven rooms it is now a great and imposing institution consisting of four separate buildings. Three of these are student nurses' homes and classrooms and the central structure is the hospital having 260 adult beds and 40 bassinets.

From this small beginning, the hospital now admits on an average of 1200 patients a month, performs an average of 350 major and 249 minor surgical operations each month. Its laboratory performs approximately 11,500 various tests each month including from 400 to 450 blood transfusions. Its x-ray department x-rays approximately 900 patients using from 2500 to 3000 films each month, and its obstetrical department delivers approximately 140 babies each month.

In 1951 in answer to a most critical and urgent need for additional beds, the Mississippi Baptist Hospital embarked on a program to provide an addition which would make available when completed a total of from 90 to 100 additional beds. Sufficient money has not been raised to complete this project although construction is proceeding to complete all outside construction through five floors with the idea of finishing the interior floor by floor as money becomes available. Plans for this new addition call for the first and second floors to be for medical and surgical patients. The third floor is to be a new maternity department including progress rooms, delivery rooms, and both normal and suspect nurseries. The fourth floor is to be a new pediatric department including a section for the care and treatment of children with poliomyelitis. The fifth floor is to provide two additional major operating rooms, a new tissue section for the laboratory, a morgue and autopsy room, medical conference rooms, a new medical library, and living quarters for interns and residents. When this new addition is completed the Baptist Hospital will have a total of approximately 360 adult and children's beds and 55 bassinets.

The Mississippi Baptist Hospital has through the years been the chief source for graduate nurses for the state of Mississippi. Its School of Nursing has graduated a total of 668 young women up to the present time. Its present enrollment is 160 students. During the past few years it has been graduating on an average of from 40 to 45 graduate nurses each year. It is the only school of nursing in the state training Negro students to become nurses. Since 1931 it has trained and graduated 66 Negro nurses. The hospital has its own 50-bed section for Negro patients completely staffed by Negro nurses trained in its own school of nursing. Many of its Negro graduates are serving in other parts of Mississippi and even outside the state. The Negro nurses are required to pass the same pre-entrance examination as white students and are found to make good students and eventually efficient and well-trained graduate nurses. The Baptist Hospital School of Nursing is at present affiliated with Mississippi College for white students and Jackson College for colored students. The students receive 18 semester hours of college credit for their basic science classroom work at the colleges. The School of Nursing recently received national recognition in the form of a temporary national accreditation. The School was one of only six schools of nursing in Mississippi receiving this national recognition.

The Mississippi Baptist Hospital in both its healing ministry and its Christian nursing education ministry seeks to be a lighthouse pointing suffering mankind to Him who is able to satisfy every need.


MISSISSIPPI BAPTIST HOSPIT
JACKSON
MISSISSIPPI
SPAIN & BIGGERS - ARCHITECTS-ENGINEE

The Mississippi Baptist Hospital has grown in forty years from a seven-room antebellum structure to the above magnificent modern plant, its facilities placing it in the group of finest general hospitals in the South.

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THE MID-SOUTH MEDICAL ASSEMBLY

We share with you advance information from Dr. Harwell Wilson of Memphis relative to the Mid-South Postgraduate Assembly program. The Mid-South was the first in the South to launch out with just the type of program it offers. Many other cities now have similar meetings. No one furnishes a finer program than the old reliable leader, the Mid-South, at the Peabody in Memphis. Make your arrangements now to attend this meeting.

The Mississippi Doctor

The journal with a vision which encourages a plan of delivering modern medicine to the masses at less cost to the individual and more profit to the practitioner. It champions the community hospital, the hub around which this service must be built.

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Editorials

EMPLOY THE HANDICAPPED

Although we have had the handicapped with us always, we have not until recently considered them in such numbers. Nor did we see them comprehensively—their handicaps limited not only to the physical but also to mental and spiritual crippling—their misfortune potential assets rather than burdens to society. It gives us courage to learn that 97 per cent of our handicapped can be rehabilitated to lead productive lives. There are now 8,000,000 disabled males, one in sixteen of our working population or one in seven of our working male population, who must have rehabilitation and training before they can be successfully employed.

During World War II 1500 persons were blinded, practically all of whom have been rehabilitated. During the same period 60,000 civilians lost their eyesight, with a far lower record of rehabilitation. While 265,000 men were permanently disabled in combat in the last World War also, there were 1,125,000 disabled in civil life during the same time. These 1,125,000 were disabled by accidents alone. Within the first ten days of the battle for the beaches of Normandy 11,000 soldiers were wounded; but back home more than twice this number were disabled by automobile accidents alone. The highways, the homes, and the farms have become the precincts for accidents rather than the battlefields and factory centers. If we are to keep in step with the march of medicine and the trends of human society, prevention is the only sensible answer. The causes of accident should be sought as research stalks a ravaging disease. Our twin responsibility to prevention is to rehabilitate and train the victims of our wholesale recklessness.

It is now known that the handicapped man can and will do his job as well or a little better than the man who is not. He is not as likely to have further accidents as the man who has not had an accident, and he is also more dependable than the non-handicapped. It is also government statistics that when the government invests one dollar in rehabilitating the handicapped it reaps ten dollars in taxes, or 1000 per cent. Immeasurable happiness and satisfaction accrues in greater dividend to the individual whose abilities are salvaged.

According to Dr. Howard R. Rusk, the first rehabilitation program was begun at Bellevue Hospital in New York in 1947. Starting with eighty patients, it now takes care of 600. A special challenge to every medical school and hospital, rehabilitation and training comes first to the medical profession, especially to the general practitioner out on the civil firing lines. The orthopedist has a magnificent role in this process, which really proposes to take the patient from the bed to the job.

As we civilians assume our part of the task of restoring usefulness to the physically handicapped, we can not ignore the mental depressions, the starved and warped spirits, the psychic traumas that accompany broken bodies. Herein the doctor, the preacher, the teacher, the business man and the lawmaker meet on a common ground of responsibility. With understanding and an extended hand we can build our own social and economical security, and a whole citizenship for a stronger people tomorrow. When we enhance physical adjustment to misfortune, we correct also behavior problems, delinquencies and criminal aberrations. It is sheer righteousness to do a full-measure job of rehabilitating and training our handicapped.

MISSISSIPPI BAPTIST HOSPITAL EXPANDS

You will find in this issue of the journal a most readable history of the Baptist Hospital in Jackson. The growth, progress, and service of this hospital, as well as a projection of the aims of this great institution are epitomized and presented by Mrs. Karenza Gilfoy, one of the best known persons identified with the Baptist Hospital the past two decades.

The Baptist Hospital now has 300 beds including 40 bassinets and plans are afoot for the addition of another hundred beds.

We are sure that the entire state feels a pride in this great service institution. It is located in one of the South's fastest growing and most attractive cities. Its fine staff of doctors and its training school have enabled it to render an outstanding service. For some time it has been training colored nurses in order to meet an urgent need. In a state with almost a fifty per cent population, colored nurses are an obvious social and economic requirement. We appreciate this service on the part of this hospital.

The hospital has grown rapidly and served well. Its future holds still greater opportunities. It is becoming increasingly more evident that the mental and the spiritual side, as well as the physical, must be considered by the medical profession in treating a patient. One without the other leaves a handicap. The doctor and the preacher find a common ground in uncovering mental and spiritual aspects of illness, of the patient's everyday problems of adjustment. Herefrom stretches a little explored realm which beckons with challenging opportunity to the hospital.

We congratulate our Mississippi Baptist Hospital on its vision and dedication to service.

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We offer our sincere sympathy to Dr. F. G. Riley of Meridian in the loss of his father, W. R. Riley, who passed at the age of 89. Mr. Riley was one of the outstanding builders of the progressive city of Tupelo. A leader in the organization of the Sons of Confederate Veterans, he was a loyal and delightful friend. Dr. Riley, a prominent practitioner in Booneville for several years before engaging in pediatrics, has done for this speciality in Meridian what Dr. Harvey Garrison, Sr., has done in Jackson. They have brought recognition to the state.

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G P ' s

Sixty-four per cent of the active practicing physicians in private practice in the United States are general practitioners without a special interest.

Only 22 plus per cent of all approved hospitals permit G. P.'s to practice in accordance with the standards of the American Academy of General Practice. Just less than 29 per cent of all hospitals permit limited practice by G. P.'s. Forty-nine per cent of all hospitals have disapproved any practice by the general practitioner.

In other words, 49 per cent of the hospitals in the United States bar 64 per cent of active physicians in private practice. Also, 63 per cent of the hospitals are controlled almost as a monopoly by 36 per cent of the medical profession.

In a six-state mid-South area, there are 7,274 specialists and G. P.'s with a special interest. Twenty-nine per cent of the physicians in the mid-South area control the hospital beds to the exclusion of 71 per cent of active practitioners.

These figures do not include small non-approved hospitals which, in general, are controlled by general practitioners.

(There are two sources for the above: The AMA and the AAGP. The compilation was made by Bill Wiles of the General Practice Office.)

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HOMECOMING AT SANATORIUM

Sunday, October 5, was homecoming day at our T. B. Sanatorium. It was good to be there. A fine review of the growth of tne institution was given in an impressive pageant, spiced in with many good laughs. The meeting was held in the church and every patient who was unable to attend had a radio to listen in on the program.

The first patient who entered the Sanatorium when Dr. Boswell accepted the superintendency thirty-five years ago was there. Others came from far and near. Doctors and friends were present. The Henry Boswell Society gave a portrait of him to be kept at the institution. This portrait presentation was made by Mr. J. M. Cantrell to Dr. R. B. Caldwell who received it for the State Board of Health.

The growth, development, and efficiency of this institution should cause every heart in this state to swell with pride. We feel sure it is not surpassed by any institution of its kind in this nation. It stands at the top in diagnosis and treatment and as a teaching center for both colored and white. The motivating spirit of this institution is to "get well, live and serve, never give up". The patient is taught how to live safely at home, safely for himself and for others. Deaths from tuberculosis have dropped significantly in our state and our sanatorium is due much credit for its part in the fight as an exponent of the State Board of Health.

News and Comment

SMA PRESIDENT
DR. ROBERT J. WILKINSON
Huntington, West Virginia

One of the leaders of the medical profession in Huntington, as well as West Virginia and the nation, Dr. Wilkinson is a past president of the Cabell County Medical Society, the West Virginia State Medical Association, and the Southeastern Surgical Congress. He is a Fellow of the American College of Surgeons, the American College of Clinic Administrators, the International College of Surgeons and other medical and surgical groups and was a member of the Founders Group of the American Board of Surgery.

The Wilkinson Surgical Clinic was organized by him in June of 1933. He is a member of the senior staff of St. Mary's Hospital, Huntington. He is a member of Alpha Omega Alpha, honorary medical fraternity, and Phi Beta Pi, medical fraternity. His constructive interest in medical education and medical organization has been the text of his efforts the past few years.

The Association has chosen wisely in selecting this man of superior intellect, talent, winning personality and executive ability. His friends are legion, and all are behind him in his new assignment.

The annual meeting of the Southern Medical Association, over which Dr. Wilkinson presides this year, will be held next month, November 10-13 in Miami, Fla. No medical meeting holds forth the appeal that the Southern does for physicians of its seventeen constituent states.

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SURGICAL ESSAYISTS FOR MID-SOUTH

Dr. Harwell Wilson, chairman of the program committee for the Mid-South Postgraduate Medical Assembly, which meets in Memphis, Tennessee, next February, sends the following information regarding the surgical essayists who will appear on this program. We agree with Dr. Wilson that the program promises to be up to its usual high standard.

Dr. Wilson has spent a great deal of time writing letters and making telephone calls in an effort to line up excellent surgical talks in accordance with suggestions made by the members of the program committee and practitioners of the area. Each surgeon will give two thirty-minute talks on consecutive days:

Dr. Hilger P. Jenkins, associate professor of surgery, University of Illinois: 1) "Acute Surgical Lesions of the Intestines", supplemented by motion picture, and 2) "Lesions of the Face, Head and Neck; Diagnosis and Management", supplemented by slides and pictures.

Dr. William E. Adams, professor of surgery, University of Chicago: 1) "The Importance of Dysphagia in Obstructing Lesions of the Esophagus, and 2) "Hemoptysis; Etiology and Significance".

Dr. Robert Zollinger, professor and chief of the division of surgery, University of Ohio: 1) "Indications for Surgery in Jaundice Patients", and 2) "Pancreatitis; Acute and Chronic".

Dr. Ross Veal, Washington, D. C.: 1) "Treatment of Arteriosclerosis of the Lower Extremities", and 2) "Management of Acute Arterial Occlusion".

Dr. Reginald Smithwick, professor and chief of the division of surgery, Boston University: 1) "The Surgical Treatment of Hypertension, and 2) participate in symposium on hypertension. If, for some reason, the symposium is not worked out, Dr. Smithwick will talk on peptic ulcer.

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MEDICAL SOCIETY CALENDAR

SOCIETY	*MEETS*
Central Medical Society	First Tuesday each month. Roof Robt. E. Lee Hotel, 6:30 P. M.
South Miss. Medical Society	Second Thursday each month. Alternating, Hattiesburg and Laurel.
Tate County Medical Society	No regular meetings.
Northeast Miss. Medical Society	Second Tuesday of March, June, Sept., Dec.
Clarksdale and Six Counties	Fourth Wed. of March; Second Wed. of November., Clarksdale, Mississippi.
Coast Counties Medical Society	First Wed. each month. Alternating all over Coast.
North Miss. Medical Society	First Thurs. of January, April, July, and Oct. University unless otherwise specified.
Amite County Medical Society	First Thursday each quarter, Field Memorial Community Hospital, Centreville.
East Miss. Medical Society	Third Thurs. of March, June, Sept., and Dec. Meridian, Miss.
Tri-County Medical Society	Second Tuesday of March, June, Sept. and Dec. Brookhaven, McComb, Hazlehurst, Brookhaven (1952).
Delta Medical Society	Second Wed. of April and Oct. Cleveland, Miss., Oct. 1952. (Rotates in the 5 counties).
Wilkinson County	Second Thursday of March, June, Sept., and Dec., Field Hospital, Centreville.
Issaquena - Sharkey-Warren	Second Tuesday each month, Olde Southern Tearoom, Vicksburg.

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AAGP PLANS NEXT ASSEMBLY

The American Academy of General Practice has issued the first announcement on its Fifth

Annual Scientific Assembly, to be held in Kiel Auditorium, Saint Louis, on March 23 to 26, 1953. This meeting is a "repeat" for Saint Louis as the Academy's Second Assembly was held there in 1950.

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MISSISSIPPI HOSPITAL ASSOCIATION

The twenty-first annual meeting of the Mississippi Hospital Association will be held October 15-17 at the Heidelberg Hotel, Jackson, Mississippi.

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AWARDED BRONZE STAR MEDAL

By direction of the President, under the provisions of Executive Order 9419, 4 February, 1944, (Sec. II, WD Bul 3, 1944, and pursuant to authority in AR 600-45, the Bronze Star Medal with Letter "V" device for heroic achievement in connection with military operations against an armed enemy is awarded to Captain Van Philpot, son of Dr. and Mrs. V. B. Philpot of Holly Springs, Miss.

Captain VAN BUREN PHILPOT, JR., 0986937, Medical Corps, United States Army, First Field Artillery Observation Battalion, I Corps, distinguished himself by heroism in action against an armed enemy near Pokkae, Korea. On the night of 4 April, 1952, Captain PHILPOT voluntarily accompanied a company on patrol in a night sweep against an outlying Communist outpost. Nearing a well-defended enemy ridge, the patrol was suddenly caught in an intense cross fire by the enemy. In the initial burst of fire, several friendly troops were wounded, including four medical aid men. With the enemy no more than fifteen yards away at some points, Captain PHILPOT, although unarmed, moved about seeking and aiding the wounded men. Disregarding direct hostile fire, Captain PHILPOT calmly continued to supervise the treatment of the injured. When the order came to withdraw he moved among the wounded, treating the more serious cases, and supervising the overall evacuation. Captain PHILPOT's heroism inspired the troops about him and reflects high credit on himself and the military service. He entered the Federal service from Louisiana.

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A.S.T.A. OFFERS PLANNING GUIDE

The American Surgical Trade Association, with the cooperation of the United States Public Health Service, has published a guide to assist physicians in planning their offices. Any physician desiring a complimentary copy may obtain it by writing to Homer G. Klene, secretary, American Surgical Trade Association, 176 West Adams St., Chicago 2, Ill.

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UT OFFERS SERVICE TO GP's

The University of Tennessee General Practice Office has begun a free general practice location service. An up-to-date file of available locations for general practitioners is maintained in the office and is open for inspection by any physician who wishes to check it. Each of these locations is investigated, some of them personally, and we believe that only the better locations are indexed in our files.

Information on these cities is available by mail to any qualified general practitioner who is interested in doing a rural family practice and members of the General Practice Staff in the University of Tennessee have volunteered to give their time to cooperate in investigating any phase of the problem of establishing a practice that the young physicians may desire.

Members of the staff will be glad to go into the problem of original equipment purchases, financing medical equipment, and will be glad, whenever possible, to help personally in establishing rural locations for men wishing to do a general practice.

This is not designed as a commercial service. It simply is an offer on the part of the General Practice Staff of the University of Tennessee to help in any way possible to see to it that more physicians are located in rural areas.

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TUNE IN

On Monday, October 20, at 9:00 p.m., Chicago time, NBC and HIF will present the first program in an important new dramatic series on child health. We remind our readers to hear "Accidentally Speaking" to be broadcast from the annual meeting of the American Academy of Pediatrics and the National Safety Council, at the Palmer House, Chicago.

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MR. BRADY ON NATIONAL BOARD

Dr. H. C. Ricks, president of Mississippi Society for Crippled Children and Adults, announces that Mr. Tullius Brady, owner and manager of Radio Station WJMB in Brookhaven, Mississippi, has been elected to the Board of Trustees of the National Society for Crippled Children and Adults. Besides being a member of the Board of Trustees of the Mississippi Chapter and a member of the Executive Committee, Mr. Brady has been Lincoln County Chairman for a number of years, a leader in his community in civic affairs and a widely known person in business circles over the state.

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DELTA MEDICAL SOCIETY

Cleveland opened its doors with the usual hearty Delta hospitality October 8 for the fifty-eighth semi-annual meeting of the Delta Medical Society. Dr. John W. Williams, able and affable young president of the body, presented society essayists Robert H. Peeples, George Archer, Fred W. Hauser, Fred M. Sandifer, Oscar Ringold, Jack Russel, and Tom Robinson in a variety of scientific subjects ranging from mediastinal cysts to typhus fever. Dr. Eugene Ellison of Texarkana, Ark., was the guest essayist, talking on endometriosis.

Dr. W. W. McBride of Ethel and Dr. J. N. Mecklin of Louise received their fifty-year certificates, and the congratulations of the entire group.

The Delta Medical is comprised of Bolivar, Humphreys, Leflore, Sunflower, and Washington counties. The next meeting will be in April.

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POSTGRADUATE COURSE IN CARE OF PREMATURE INFANTS

The Charity Hospital of Louisiana, New Orleans, La., is offering a postgraduate course in the care of premature infants November 5-19. Contact Dr. E. L. Leckert, director, for further information.

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NORTHEAST MEDICAL SOCIETY

The Northeast Mississippi Medical Society held its September meeting in Amory. Dr. E. W. Eberling of Starkville presided as president and Dr. H. H. McClanahan, Jr., as secretary-treasurer. Papers were presented by Dr. C. C. Brummett of Aberdeen on atypical pneumonias, Dr. J. H. French of Macon, and Dr. H. H. McClanahan on clinical pathology, and Dr. A. Lynn Herring of Memphis, the guest essayest, discussed urological problems encountered by the general practitioner. His paper was timely and most informative.

In the interim between the scientific session and the banquet, a number of doctors visited Dr. G. S. Bryan. They were delighted to see him getting along so well, so close to ninety. Amory is also the home of President-Elect, Dr. M. Q. Ewing of the State Association.

The December meeting will be held in Tupelo, the progressive and rapidly growing city at the cross roads of northeast Mississippi. The March meeting will be held in Columbus.

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NEW ASSOCIATE

Doctors Gamble Brothers and Archer Clinic, Greenville, Mississippi, announce the association of Doctor Thomas G. Barnes in the practice of surgery and in charge of the section on vascular surgery.

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MOVED

The Texas Medical Association, including its library and journal, announce the removal of its offices to 1801 Lamar Boulevard, Austin, Texas.

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UROLOGY AWARD

The American Urological Association offers an annual award of $1000.00 (first prize of $500.00, second prize $300.00 and third prize $200.00) for essays on the result of some clinical or laboratory research in urology. Competition shall be limited to urologists who have been in such specific practice for not more than five years and to men in training to become urologists.

The first prize essay will appear on the program of the forthcoming meeting of the American Urological Association, to be held at the Hotel Jefferson, St. Louis, Missouri, May 11-14, 1953.

For full particulars write the Executive Secretary, William P. Didusch, 1120 North Charles Street, Baltimore, Maryland. Essays must be in his hands before January 15, 1953.

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TO EXHIBIT AT AMA

The General Practice Office of the University of Tennessee in cooperation with the Department of Pediatrics has been selected to be one of the exhibitors at the Denver scientific meeting of the American Medical Association in December. An experiment in medical exhibits is being tried covering the subject of office pediatrics for the general practitioners.

A live demonstration of periodic health examinations done on children of varying ages will be the major part of this exhibit. Along with the actual examination, a verbal commentary will be piped to the audience through loud speakers located in the booth.

It is believed that this is the first time that a university general practice department has participated in the American Medical Association medical exhibits.

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DEATHS

DR. S. A. EGGLESTON

Services were conducted from St. Mary's Episcopal church for Dr. Stephen Archer Eggleston, 77, who died at his home in Tchula following a long illness.

Born in Holmes County December 1, 1874, Dr. Eggleston married the former Miss Nell Bryan June 12, 1907, in St. Louis, Mo. He was a Mason and a member of the Episcopal church. He received his medical education at Memphis Hospital Medical College, Memphis, Tennessee.

He leaves his wife; one son, William Eggleston of Mayfair Plantation; one daughter, Mrs. Sara E. Baine of Tchula, and two sisters, Mrs. Fannie Lumpkin of Lexington and Mrs. Neabie Money of Dillwyn, Va.

DR. CHARLES E. LEHMBERG

Dr. Charles E. Lehmberg who in 1928 was awarded a certificate as "the most outstanding citizen in Columbus" was found August 13 near death from a slash in his left arm. Officers found at his side a razor and a note saying: "I have prayed, God is on my side." He died shortly after being hospitalized.

DR. J. H. HAILEY

Services for Dr. James H. Hailey were held at

2:30 p.m. September 21, at Wright and Ferguson Funeral Home in Jackson, preceding funeral services held from the Pegues Funeral Home in Tupelo the following day with Rev. H. R. Holcomb officiating.

Dr. Hailey, 31, of Bassfield, died of polio at Lutheran Hospital in Vicksburg. He was rushed to the hospital after his illness was diagnosed as polio at the Baptist Hospital September 19.

Dr. Hailey had been ill for less than one week. He was a native of Meridian and lived at Tupelo for 10 years before entering the army during World War II.

He was a graduate of the University of Mississippi Medical School and the Medical School of Northwestern University in Chicago.

He completed a year's internship at Baptist Hospital January 1 and was practicing at Bassfield at the time of his illness.

Dr. Hailey was a member of the First Baptist Church at Tupelo.

Survivors include his wife, the former Lucie Ann Edson, his mother, Mrs. Inez Hailey of Memphis, and one sister, Mrs. Turner Mitchell of Arlington, Va.

IN MEMORIAM

Dr. William Thomas Thornhill

There are times when the passing of a citizen from a community is felt as a personal loss by every man, woman, and child in its environs.

This tribute of respect comes only to those who have rendered outstanding services to their fellow man.

So it is with Dr. William Thomas Thornhill, Crosby, Mississippi, who literally worked until the setting of the sun, leaving his office on the afternoon of May 31, 1952, and just didn't come back any more.

For nearly a half century he served his community, ministering to the sick and injured in such skillful and faithful manner that he endeared himself to multiplied hundreds who sought his services.

Always interested in the betterment of his community, both from the standpoint of religion and education, he was most active in supporting its church and school and both owe much to his untiring energy.

"Doctor Thomas", or "Doctor W. T." as he was affectionately known to this society and to a multitude of friends throughout the state, was so universally admired by his fellowmen, both professional and otherwise for his professional skill and knowledge, his fidelity and integrity, his cheerful, friendly, generous and charitable nature and his Christian attributes, that his passing occasioned a widespread feeling of distinct loss and sorrow to his society and community.

It is not our purpose to write a eulogy for our friend and colleague for it would be superfluous. His eulogy is written in hearts and memories of those whom he served for so long, so unselfishly and so well.

Truly he "fought a good fight and kept the faith" not only to his God but to his profession and fellowmen as well.

It is the sincere wish of the Amite-Wilkinson Medical Society that this note of respect and sympathy be recorded in the permanent records of this society and a copy be sent also to the family of Dr. Thornhill.

R. J. Field, M.D.
Pres. Wilkinson County Medical Society

NEW BOOKS IN THE LIBRARY OF THE MISSISSIPPI STATE BOARD OF HEALTH

1. Graham, Harvey, ETERNAL EVE, the hist. of gyn. and obs. Garden City, N. Y. Doubleday and Co., 1951.
2. Pinner, M. -WHEN DOCTORS ARE PATIENTS. Norton, 1952.
3. Schuck, H. and others -NOBEL: THE MAN AND HIS PRIZES. Norman, Okla., Univ. or Okla., 1951.
4. Josselyn, I. M. -THE ADOLESCENT AND HIS WORLD. N. Y., Family Serv. Assn. of America, 1952.
5. Wintrobe, M. M. -CLINICAL HEMATOLOGY. Lea and Febiger, 1951.
6. Smith, Homer W. -THE KIDNEY: STRUCTURE AND FUNCTION IN HEALTH AND DISEASE. N. Y., Oxford Univ. pr., 1951.
7. Smillie, W. G. -PREVENTIVE MEDICINE AND PUBLIC HEALTH. Macmillian, 1952.
8. Walker, B. S., Boyd, W. C. and Asimov, I. BIOCHEMISTRY AND HUMAN METABOLISM. Wms. and Wilkins, 1952 .
9. Bechman, Harry -PHARMACOLOGY IN CLIN. PRACTICE. Saunders, 1952.
10. Hagan, W. A. -THE INFECTIOUS DISEASE OF DOMESTIC ANIMALS. 2d ed., Comstock, 1951.
11. Winslow, C. E. A. -THE HISTORY OF AMERICAN EPIDEMIOLOGY. Mosby, 1952.
12. Moloy, H. C. -EVALUATION OF THE PELVIS IN OBSTETRICS. Saunders, 1951.
13. Strecker, E. A. -PRACTICAL CLINICAL PSYCHIATRY. 7th ed. Blakiston 1951.
14. Key J. A. and Conwell, H. E. -THE MANAGEMENT OF FRACTURES, DISLOCATIONS AND SPRAINS. 5th ed., Mosby, 1951.
15. Sherweed, N. P. -IMMUNOLOGY. 3d ed., Mosby, 1951.
16. Moon, G. R. -HOW TO BECOME A DOCTOR. Blakiston, 1949.
17. Osler, Sir Wm. -SELECTED WRITINGS, 12 Jul. 1849 to 29 Dec. 1919, ed. by a Com of the Osler Club of London. Oxford Univ. pr., 1951.
18. Kraines, S. H. and Thetford, L. S. -LIVE AND HELP LIVE. Macmillan, 1911.
19. Overstreet, H. A., -THE GREAT ENTERPRISE Norton, 1952.
20. Slaughter, Frank G. -EAST SIDE GENERAL. Doubleday, 1952.
21. English, O. S. and Foster, C. J. -FATHERS ARE PARENTS, TOO. Putnam, 1951.
22. Duncan, G. C. -DIABETES, MELLITUS. Saunders, 1951.
23. Lewis, G. M. -PRACTICAL DERMATOLOGY. Saunders, 1952.
24. Rantz, L. A. -PREVENTION OF RHEUMATIC FEVER, C. C. Thomas, 1952.
25. Horrax, Cilbert. -NEUROSURGERY. AN HISTORICAL SKETCH. Thomas, 1951.
26. Weiss, R. S. -SYPHILIS. N. Y. Thomas Nelson and sons, 1951.

FOR SALE

Portable Picker X-Ray Machine (Army type) previously used by Gulfport Naval Hospital. Tube, stand, transformer and controls in excellent condition and ready for use. This is a 60 MA machine and this type was used extensively overseas. Price $1000. Also three practically new casettes, wall type casette holder, film hangers, drying rack, five-gallon size developing tank with stand, timer and dark room light together with lead lined pass box for storing films for $250.00 additional.

INTERPRETING MEDICAL LITERATURE

STAFF OF REVIEW
Dermatology—James G. Thompson, Jackson
Otolaryngology—Charles R. Hume
Opthalmology—Eddley Jones, Vicksburg
Obstetrics and Gynecology—J. F. Lucas, Greenwood
Orthopedics—Thomas H. Blake, Jackson
Public Health—Felix J. Underwood, Jackson
Pediatrics—Harvey F. Garrison, Jackson
Radiology and Roentgenology—Karl O. Stingily, Meridian
V. A. Pathology—H. N. Naumann, Jackson
Surgery—W. H. Parsons, Vicksburg
Urology—Temple Ainsworth, Jackson

PEDIATRICS

THE EFFECT OF STREPTOMYCIN ON TUBERCULOUS MENINGITIS; A PATHOLOGIC STUDY. Abraham Levison, Joseph A. Luhan, William P. Mavrelis, and Herbert Herzon, Chicago, Ill. J. Neuropath 9:406-19, Oct. 1950.

The lesions in 26 cases of streptomycin-treated tuberculous meningitis were studied. The mechanism of healing of tuberculous lesions in the meninges and viscera is by a process of diminishing cellularity and progressive fibroplasia. After prolonged therapy (a minimum of 90 days), advanced healing changes were found in the miliary lesions in the meningeal exudate. Notwithstanding caseous or incompletely healed miliary foci and similar unhealed foci were usually present in the meninges. Frequent features of the brain in streptomycin-treated cases were: (1) Ischemic or necrotic softenings of the rostral basal ganglia on the side opposite the hemiparesis noted in life (31 per cent of cases). (2) Greater incidence of marked internal hydrocephalus than in untreated cases. (3) Selective involvement of the stem of the sylvian fissure with a thick granulomatous exudate, with endarteritis of branches of the middle cerebral artery supplying the basal ganglia, the cause of the ischemic softenings.

Relapse in streptomycin-treated tuberculous meningitis was explained as produced usually by repeated miliary dissemination to the meninges from unhealed caseous foci in the body or occasionally from local breakdown of meningeal minute caseous foci.

The meningeal exudate can heal in the absence of intrathecal therapy. "The mechanism of healing of the exudate, by the formation of a thick fibrous scar at the base of the brain associated with endarteritis of arteries traversing the exudate, stands as a pitfall to uncomplicated cure in streptomycin-treated tuberculous meningitis."

COMMENT:

The treatment of tuberculous meningitis or miliary tuberculosis in children with streptomycin has been quite an improvement over all old forms of treatment. However, we have not as yet found the answer to the treatment of tuberculous meningitis in children. My experience has been that they will improve for a while and go down all too soon under this treatment like all others.

LATER STATUS OF JUVENILE DIABETICS; C. W. Daeschner, R. W. Deisher and A. F. Hartmann, St. Louis, Mo., J. Pediat. 38:8-17, Jan. 1951.

Follow-up data on 120 children who developed diabetes mellitus prior to fifteen years of age are presented. Thirty are dead, a gross mortality rate of 25 per cent. The majority of these died from acidosis during the first decade of the insulin era. Sixty were seen for a careful analysis of their progress and present physical status. The histories were classified according to the frequency and degree of acidosis, hypoglycemia, infections, glycosuria, and nutritional abnormalities. The physical findings were classified with regard to the presence of renal abnormalities, elevated blood pressure, increased capillary fragility, retinal disease and other evidences of vascular disease. These factors were given graded numerical values and organized for statistical evaluation. A level of control that may be expected of a cooperative patient is then defined. Those whose control level is considered good are contrasted with those whose control level has been considered poor. The difference of physical grades of patients having good and poor control is great enough to suggest that not only duration but also control are important to the incidence of complications in diabetes mellitus. While good control may not entirely prevent the onset of degenerative vascular disease, it may minimize its progress and thereby prolong the useful life of the individual.

COMMENT: This is a very timely paper on this subject and it deserves serious consideration and attention from every physician in the country. This kind of patient presents a problem for any pediatrician or internest.

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VA PATHOLOGY

CLINICAL PATHOLOGICAL CONFERENCE

June 26, 1952, 1:00 p.m.

HISTORY: Pt., a 70 year old white carpenter, entered the VA Hospital, Jackson, Miss., on a litter 2-5-52 complaining of severe abdominal pain and distention. His sickness began 10 days earlier with a sudden mid-abdominal colic which persisted after paregoric and soap sud enemas. Twelve hours later, there was watery diarrhea with incontinence for a period of 7 days. After that pt. suffered another severe attack of colic and distention without diarrhea.

Two years before pt. stayed 7 weeks at this hospital mainly because of fracture of the left lower femur treated by cast and Steinmann pain. In addition he had generalized arteriosclerosis and impaired circulation in both legs for which a left lumbar sympathectomy was done while operation on the right side was refused. There was also a moderate prostatic hypertrophy and a urethral stricture which was dilated. His carious teeth were extracted at that time. Nuclear cataracts were found but not operated on. At the age of 19 years pt. had typhoid fever.

PHYSICAL EXAMINATION: Pt. was a senile, moderately nourished man. Weight 115 lbs., P. 80, T. 98°, BP 110/78 (previous admission 130/70). - Chest: heart normal. Diaphragm elevated to 4th rib right and 5th ICS left. Friction rub right midlobe laterally. Moist rales throughout. - Abdomen: distended, slightly rigid with splinting of rectus muscles, tender mainly in periumbilical area, no peristaltic sounds. Legs: cold, cyanotic, pulse on dorsalis pedis and posterior tibialis absent bilaterally.

LABORATORY DATA:

2-6-51 Urine: acid, 1024, Alb. 1-, numerous WBC, occ., RBC. CBC: Hb. 13 gms., RBC 3,950,000, WBC 13,000, P. 80, L. 20. - Kahn O - Chem. Amylase 83.

2-9-51 Feces: No ova or parasites.

2-15-51 Chem.: CO_2 67, NaCL 595 - Stool Culture: No enteric pathogens.

2-16-51 CBC: Hb 17 gms., Hematocrit 51, RBC 5,350,000, WBC 10,000, P. 65, L. 34, Eo 1 - Sed rate 18.

2-21-51 Feces: No ova or parasites.

X-RAY: (2-6-51) Chest: Free air under diaphragm, most marked on right side. Chest otherwise negative. Flat plate of abdomen (erect): also reveals free air. Nothing remarkable about bowels. - EKG: 2-15-51 suggestive of potassium deficiency if no digitalis has been taken. 2-16-51 possibility of subendocardial ischemia on basis of coronary insufficiency. 2-19-51 development of infarction, probably posterior.

COURSE: The initial impression was bowel obstruction, mesenteric thrombosis or acute pancreatitis until free air under the diaphragm indicated perforation of intestine. Most probably a duodenal ulcer had perforated 10 days earlier when abdominal pain first started. On conservative treatment with penicillin, streptomycin and Levine tube the abdominal tenderness disappeared after three days and temperature, which had spiked up to 101.8° daily, subsided after 16 days. One week after admission pt. had watery stools which became semi-solid; but pt. continued to have incontinence and frequent rectal discharge. Pt. was placed on terramycin by mouth and liquid diet which was increased to Gastric Diet III on the 12th hospital day; however, little food was taken by mouth. There was also recurrence of pain in the legs which were cold, cyanotic and pulseless. Treatment with priscoline and whiskey gave some relief. Because of diarrhea and prolonged intravenous therapy, the possibility of potassium deficiency was considered, and suggested by the first EKG. Later tracings were interpreted as infarction, although pt. had had no symptoms referrable to his heart. On the last hospital day pt. had a spastic seizure lasting 5 minutes with marked, but transient difficulty in breathing, BP 90/60 and pulse of 60. There were no neurological signs. One and one-half hours later there were similar episodes of spasms of the upper extremities with BP of 66/40 and pulse of 60. There was progressive mottled lividity of the legs and edema of face and neck. Pt. expired 5 hours after the first seizure on the 18th hospital day.

ABSTRACT OF DISCUSSION

Dr. William E. Gupton based his diagnostic conclusions on the following clinical findings: 1. Abdominal distention, tenderness and diarrhea without vomiting 2. Pneumo-peritoneum 3. Spiking temperature 4. Vascular insufficiency of legs. Reconstructing the most plausible sequence of events, a perforaiton of a hollow viscus would have to be assumed, e.g., appendix with abscess, duodenal ulcer, rectal carcinoma, diverticulum, etc., causing first intermittent obstruction with abdominal distention, then perforation with pneumoperitoneum, and subsequent peritonitis with fever, while all this may have been complicated by an occlusion of the iliac arteries by a saddle thrombus. Dr. J. V. Cockrell pointed out the relatively large amount of gas under the right diaphragm on the X-ray film and considered a perforated duodenal ulcer as the most likely cause. Dr. J. A. O'Grady commented on the terminal spasms which could be explained by a cerebrovascular accident except for the absence of neurological signs. This may suggest the possibility of tetany due to hypo-calcemia. Dr. H. N. Naumann raised the question of spasms due to cerebral anoxia caused by sudden fall of blood pressure in shock.

ANATOMICAL DIAGNOSIS

(Dr. H. N. Naumann)

1. Coronary occlusion, right orifice, left descending branch; myocardial infarct, left ventricle, posterior, recent.
2. Pararectal abscess, rectovesical pouch, large perforation of rectum.
3. Aortic aneurysm, arteriosclerotic, abdominal, extensive; thrombosis, inferior mesenteric and iliac arteries, old and recent.

Note: The pararectal abscess was not of malignant, but of inflammatory nature originating probably in a congenital diverticulum.

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Nutrition of the Aged

With the lengthening span of life, more attention is being paid to the nutritional problems of older people. Dr. I. W. Winfield, writing in the *Nursing Home Administrator,* points out that older patients have a low vitamin reserve and lessened ability to manufacture hydrochloric acid. Despite distinct nutritional requirements, they often have a poor appetite which bad teeth do nothing to improve. Fluid intake also tends to be insufficient. Dr. Winfield states that "unsweetened citrus juices have been found effective in supplementing the supply of hydrochloric acid in stomach secretions," besides providing needed fluid, vitamin C and easily assimilable sugars. Frequent light meals, he adds, are often very effective with geriatric patients.

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Fall Activity Begins with Executive Board Meeting

The state president, Mrs. Richard Clark of Hattiesburg, called her first executive board meeting in early September, with officers, committee chairmen, councilors and local presidents joining her enthusiasm for launching a banner year in Auxiliary work. The group agreed to concentrate at the home level with enlisting every doctor's wife in an interpretation to the public of the medical profession's high standard. The wife, identified with Auxiliary work, can explain the advantages of voluntary health insurance plans where preplanning and budgeting for the costs of illness, injury and disability provide more and better medical care than government medicine. She can, most of all, be the best public relations "man" her doctor-husband can have.

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Attend the S.M.A. in Miami

An invitation has gone out from Mrs. V. E. Holcombe of Charleston, West Va., president of the Auxiliary to the Southern Medical Association, for all Auxiliary members to come to the meeting in Miami, Fla., November 10-13. "We need the wife of every doctor practicing in the South to participate in our Southern Auxiliary program," she urges. The convention headquarters will be the Columbus Hotel, Miami.

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Doctors and their wives voted about 30 per cent in the last Presidential election.

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If anyone wants a copy of the pamphlet, "Comparison of Potential Voters and Actual Voters Cast by Counties in Each State in 1948-1950", limited supplies are available from the office of your Senator.

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Only about one-half of our voters went to the polls in the last Presidential election. The right to vote is a privilege and a responsibility. Let us make this year's vote the largest ever recorded in our history! Get out and vote November 4th! Urge all your friends to do likewise.

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See Handbook On Legislation — Page 43

"Note: It is both legal and ethical for medical societies to conduct registration and get-out-the-vote drives on a non-partisan basis. This work should be conducted without reference to parties, candidates or specific issues."

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Metropolitan Life Insurance Company

In recent national elections in some free countries, the following percentage of eligible persons voted:

Australia	96% voted
Great Britain	83% voted
Sweden	80% voted
Western Germany	75% voted
Canada	74% voted
Israel	72% voted
United States	51% voted

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Changing Trends in Prenatal Care [*]

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THE RECORD of modern obstetrics is good. We are all familiar with the remarkable reduction in maternal and neonatal mortality which has been achieved by the scientific advances in medicine. Today it is actually safer for the average woman to have a baby than to travel a hundred miles in an automobile. But everything is not reflected in mortality figures. There are other important objectives in obstetrical practice besides the safety factor. Changing trends are emphasizing the greater satisfaction, enjoyment and even pleasure that mothers can get from childbirth if they are properly trained for the experience. The purpose of this paper is to discuss the idea of training for childbirth, and to point out the practical application and results of such a program.

The essence of this new approach revolves around the physical, intellectual and emotional preparation for motherhood. The same principles are involved which one would employ in training for any important event that requires physical effort, understanding facts, and how to deal with emotional reactions — a pilot, a track man, or a tennis player. The fact that these elements are important seems assured by the increasing support from both mothers and doctors.

Unfortunately, the term "natural childbirth" has been strongly associated with recent trends. This term has caused a lot of confusion and misconceptions concerning fundamentally sound principles. As far as I can tell no one is advocating a return to primitive methods, no one is advocating that labor should be painless, and no one is advocating that anesthetics, analgesics or sedatives should not be used. But there are many, including myself, who have good reason to believe that with proper preparation the ordinary discomforts of pregnancy can be diminished, and that the whole experience of childbearing can be more meaningful. These new ideas continue to be criticized, but like television, I believe they are here to stay.

In order to emphasize some of the changes which are possible and practical in obstetrics, the experiences of two patients will be related briefly.

During the spring of my fourth year in medical school, sixteen years ago, an opportunity came up to substitute as an intern on the obstetrical service. I was scared to death, but considered it a privilege to be working first-hand with some of the leading specialists in town. From that experience I vividly recall a patient. She was an attractive intelligent mother of two children, in good general physical condition, who came to the hospital in very early labor. She had received prenatal care for six months and had developed no complications. Mild contractions were coming about eight minutes apart and the cervix was two centimeters dilated. She was tense, afraid, apprehensive and insisted on something to put her to sleep right away. After talking to her doctor on the 'phone, I administered a good-size dose of sedative and she was soon unconscious. Six hours later her doctor came in, at which time the cervix was just about complete. The sagittal suture was transverse and the vertex at the spines. After not more than fifteen minutes of second stage labor, with things progressing normally, she was deeply anesthetized with ether and a rather difficult mid-forceps rotation and extraction was carried out. The baby lived but required at least fifteen minutes of resuscitation before it was breathing normally. The doctor talked to me for thirty minutes extolling the virtues and technique of a mid-forceps operation. I took it all in and was thoroughly impressed. Frankly, I thought I had seen some good obstetrics. Eight hours later the patient woke up and asked if everything was all right. She was assured that things were fine, but it fell my lot to explain — which I did very awkwardly — why her baby was still in an incubator getting oxygen. That patient knew nothing about having her baby. It would be interesting indeed to know just what she told her two daughters about labor and delivery when they started asking questions.

About four months ago the tables were turned and I was the doctor. An alert student kept me up after four a.m. asking questions about a patient we had both been with for several hours. I am happy to say that the discussion was not centered around the technique of mid-forceps rotation. Instead, we talked about the normal labor and delivery of a patient, and how she had been managed during the prenatal period. This patient had come to the hospital about six hours before delivery apologizing because she was not sure that labor had started, although there had been several irregular contractions. The cervix was about four centimeters dilated with the vertex at the spines. Physical examination and laboratory work were normal. After these preliminaries and a vulval prep she asked if it would be all right to walk down the hall and find her husband, Bill. A medical student was assigned as an escort and they went to the lounge to find Bill. When I got there twenty minutes later she was calmly giving Bill instructions about how to take care of the children for the next several days. We sent the husband out for a cup of coffee and returned to the labor room. She was relaxed, confident and in excellent spirits. Her contractions had become regular at five-minute intervals. She accepted one capsule of nembutal but was not complaining of any great discomfort. During the next three hours either the medical student or myself was in the labor room at all times. The conversation ranged from the high cost of living to what a normal placenta looked like. Labor progressed with very little discomfort as she carried out muscle relaxing techniques which had been learned in the prenatal period. She was taken to the delivery room when the second stage started. I offered to give her an anesthetic in the form of a saddle block, pudendal block or nitrous oxide but she declined. Her contractions became stronger and the abdominal muscles were brought into play. She groaned and sounded like a person doing hard work, but there was no screaming, complaining or any evidence of fright. It took her about twenty minutes of second stage labor to deliver an eight and one-half pound baby — her third girl. The baby cried vigorously before the feet were out of the vagina. As it was placed on her abdomen she raised up on her elbows and saw for herself that everything was all right. The placenta was delivered spontaneously with very little blood loss. A small midline episiotomy, which had been done under local anesthesia, was repaired. A few minutes later the medical student and nurse rolled the patient and her baby down the hall to find Bill again. The patient, not me, told her husband about the baby. She was wide awake and obviously delighted over a great achievement. There was certainly no evidence of any discomfort.

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[*] Presented at the annual meeting of the Mississippi State Medical Association, Jackson, Mississippi, May 15, 1952.

When I saw that lady six weeks later for the usual postpartum examination, she was fine. There had been no complications and no complaints. She was nursing the baby who was doing very nicely with no supplementary feeding. To look at her one would never guess that she was managing three daughters and a husband unassisted. As she left the office I thought to myself that her three daughters were potential mothers, and that they were well on their way to having good prenatal care. Experience with counselling has taught me that by far the best person to teach a girl about sex, pregnancy and delivery is her mother — a mother who has lived through her reproductive functions without fear, without anxiety and without doubt. Such a mother usually experiences a deep gratification and almost invariably demonstrates those intangible qualities that we call maternal love, and no factor is more important for the security of a growing child.

It is clear that the outcome in the two cases cited above was vastly different, yet neither of them had any serious complication or morbidity. The first patient had no particular training — she was watched, weighed and measured, but not trained. She missed the satisfaction of knowing anything about delivering her own baby. The second patient was prepared over a period of several months. She had a very gratifying experience and apparently is still talking about it. Through her recommendations six women have called me wanting to know if they could have the same kind of prenatal care. This they won't. But when the basic principle of training is applied it is remarkable how many more enthusiastic and satisfied patients you will have.

In considering the training for childbirth, I believe individualization is the key to a successful program. About the only thing pregnant women have in common is a gravid uterus. We can classify them by physical examinations, x-rays and laboratory procedures. But how do you individualize a pregnant woman? To me this means respecting a patient for what she is, not for what you think she ought to be. Show consideration for her feelings as well as her physical status. Her hopes, desires, fears, and attitudes are extremely important to her. Show interest and respect for her reaction or attitude toward children, her home, her husband and other common denominators. Treat her as a person, not just another patient. Get on common ground and talk her language. This ground may vary, but wherever it is, get on it and listen to what she has to say. Find out something about her husband besides his ability to pay bills and what his Rh might be. These are some of the aspects of considering the whole patient.

It is through this mechanism of individualization that we develop one of the strongest tools in medicine — the doctor-patient relationship — a bond which has remarkable therapeutic powers. It seems that this tool has been neglected more in obstetrics than anywhere else. The reverse should be true. The prenatal patient has become the victim of our ever increasing routines. Since most such patients are in touch with their doctors for several months, why not utilize this time to develop a strong positive relationship, and use it to manage normal pregnancy as well as the problems and complications? Let prenatal care be something more than waiting and watching for toxemia.

What about fear? Certainly this is a factor to be considered. It is surprising why average women have such apparent fear about a process which is basically normal and which constitutes the acme of their biological purpose, but nonetheless they do. The psychiatrists tell us that part of this fear, or the manifestation of it, may be essential in certain personalities. Regardless of how it comes about, the average woman has considerable fear about pregnancy. There is good reason to think that much of the fear and doubt in pregnancy arises from old wives' tales and the information and impressions gained from mothers, neighbors and girl friends who know nothing except that labor is a horrible experience.

From the practical standpoint much can be done by correcting misconceptions and replacing misinformation with facts. We should never infer or plant the idea that labor is an ordeal or that pregnancy is a rough sea and labor a rocky port. At the same time it is unnecessary and wrong to leave the impression that labor is painless with no risk involved. Most modern women want to know the truth, and will accept the facts from a person who they feel is sincere.

Basic information concerning the fundamentals of pregnancy and delivery should be given in a straightforward, simple manner. Such education goes a long way toward relieving fear. It is preferable that this be done by the physician or a trained assistant. There are literally dozens of books, pamphlets and articles written for expectant mothers — some of these are helpful but some of them may not be. Remember that no one can write a rule book about pregnancy and motherhood which will fit various individuals. Another point concerns illustrations and too much detail. The fewer and simpler the pictures the better. Too many pictures can be frightening, confusing and poorly understood by the average patient.

It is doubtful if anyone understands the minute biochemical and psychic mechanisms by which fear alters some of the basic physiological processes. But from an empirical standpoint, there are many everyday examples of this relationship. We have all seen acute diarrhea and vomiting associated with fright and fear. Marked constipation and the spastic colon are also well known in certain individuals with chronic anxiety and tension. It seems reasonable to believe that excessive tension from fear can alter the physiology of the labor process. Many cases of prolonged labor and primary uterine inertia, where disproportion and other factors were ruled out, have been carefully studied as being possibly related to functional disturbances. I am firmly convinced on the basis of clinical evidence that fear, anxiety and tension play a big part in these abnormal labors. After labor has started it is too late to do much except rely on drugs and depend on operative procedures. This type situation is no doubt responsible for quite a bit of the traumatic interference which occurs all too frequently throughout the country.

Physical exercise and techniques of muscular relaxation comprise an important part of a training program. Delivering a baby is an important physical event which women are equipped to carry out. It requires a fair amount of physical effort, but the rewards are great. Exercising during pregnancy is not only important for the event of delivery, but is usually associated with an increased feeling of well being long before labor begins. This idea is pretty hard to get across to a person who is looking forward to an unconscious labor and depending on someone else to deliver her baby.

The physiological benefits derived from exercise are undeniable. In obstetrics attention has been centered about specific exercising techniques designed to strengthen and improve certain muscle groups, the abdominal muscles and those around the pelvic girdle. These are valuable and highly recommended, but usually require the time of a trained assistant. They are best done from actual demonstrations. Several good manuals are available concerning the details of these exercises.[1],[2] If it is impractical to institute specific systems of exercising, the next best thing is walking. Most patients will tell you that they get plenty of exercise around the house, but it is wise to point out the advantages of getting away from the house and walking. A good suggestion to patients is for them to have a companion along when they walk. Many times a patient cannot get away from the house before evening, but there is nothing wrong with walking after dark. When they ask the question of how much and how far, the answer is to start gradually and increase the walking distance, but to be cautious about over-fatigue. I have seen many patients who walked several miles each day comfortably during the last week of pregnancy. Many patients who would not be interested or do very well with systematized exercises will walk regularly.

The technique of muscular relaxation is another important but poorly appreciated aspect of prenatal care. This may strike you as impractical, but there is sound reasoning behind the idea. A person can be taught through practice to consciously relax various muscle groups and even to attain differential relaxation. They can learn to breathe deeply with the intercostal muscles and diaphragm and at the same time relax the abdominal and other muscle groups. This particular technique is very useful during the first stage of labor. The principle and idea of relaxation is to relieve tension in the nervous system. I have seen the results during labor in numerous patients, and have no doubt concerning its value in the training for childbirth. There are practical inexpensive manuals on this subject which are highly recommended for patients.[3],[4]

Diet, nutrition and weight gain are always the subject of questions and discussion during prenatal care. It is not my intention to discuss the details of nutrition, but there are several important points that deserve special emphasis. Here again, individualization can play a major role. Don't attempt to change a person's life time habits overnight, and don't scare patients to death over a few extra pounds. Be reasonable, honest and helpful. You can do a lot more good by relieving anxiety (which may be a cause for overeating) than you can by creating more anxiety with abrupt threats and demands concerning losing weight. I recently saw a two-hundred-pound woman, five feet seven inches tall, who was about five months pregnant. An intern had placed her on a 1200 calorie diet with the advice that if she didn't lose weight she would probably develop high blood pressure and toxemia. It is highly probable that the basic disturbances which underlie hypertensive disease and obesity are present in women long before they see a doctor for prenatal care. We all know that excessive weight is undesirable but, frankly, I don't think weight gain has much to do with the cause of toxemia. Excessive weight gain in pregnancy is a result of some more basic disturbance and probably related to the retention of water. This abnormal retention of water is now generally believed to be directly and indirectly caused by generalized vascular damage which is the common denominator of several manifestations in toxemia. When dealing with the overweight patient in early pregnancy, it is much more reasonable to solicit cooperation by trying to understand why she is overeating, and pointing out the practical disadvantages of being overweight. You are apt to get better results by telling them that their favorite dress won't fit after delivery than by frightening them with rigid demands and horrible consequences. Believe me, there are many diet lists which are never referred to a second time.

The alleviation of pain is invariably a major part of the management of labor and something which should be discussed in the prenatal interviews. There is no doubt about the fact that labor is painful for most women, and I would waste no time trying to convince a patient that it was not. However, it is much better to talk about it than not to talk about it. It is generally wise to assure patients that they will receive adequate pain relief during labor, but at the same time one should consider the various factors which influence the pain threshold. Some of these factors are fairly well fixed and relative to long-standing habits or patterns of reaching to any kind of painful stimulus. But other factors are variable. In pregnancy and labor, the most common variable factor which intensifies pain arising from the uterus and lower genital tract is the tension related to anxiety and fear. If the element of fear can be alleviated or diminished, certainly pain will be reduced. In most women these factors can be remarkably altered. The physiological results of muscular exercise and the ability to relax are of definite value in reducing pain perception.

There is no particular logic in telling a woman that pain is helpful or that she must have pain in order to experience a complete and natural labor. It is reasonable, however, to support the idea that her normal, healthy child is well worth a few hours of moderate discomfort and strong physical effort. If women are educated to the effect that pregnancy and childbirth is their show and that they are the most important actor, it is surprising what they will do to carry out their part. In the average woman, there is probably no particular psychological value in experiencing pain per se. On the other hand I do believe there is a deep gratification and a real psychological value gained from actively participating in the experience of delivering one's own baby. The chief point here is for the mother to be conscious and aware of what is going on. This does not preclude episiotomy and manual assistance.

Pain relief brings up the question of sedatives, anesthesia and analgesics in labor. These points should also be discussed in the prenatal period. Patients should be given the assurance that when they get to labor and want analgesics for discomfort or an anesthetic for the terminal stage of delivery, they will get it. Assure them that you will be there, and if they feel the need of pain relief or something to help them relax, that it will be available. However, an effort should be made to teach patients the advantages of being awake, and taking an active part in labor and delivery. The majority of women who have had babies both ways, that is being "knocked out" with one, and consciously participating with another, report that they definitely prefer being awake and taking part in the proceedings. (I am referring to women who took part in their deliveries after a program of training.) This conscious participation and achievement seems to impart a sense of importance which they do not get any other way. It is surprising how many women, who do practically all the work themselves, will go out and sing the praises of the doctor who helped them. These patients receive relatively small amounts of sedatives and analgesics. Regional or local anesthesia is used if required for the terminal stages of delivery.

There is increasing evidence that pregnancies managed with the ideas outlined above are associated with significantly fewer complications and difficult labors. One of the most encouraging results has been an apparent reduction in the incidence of premature labor. It is too early to draw conclusions on this particular point since thousands of cases will be required to establish a statistically valid relationship. But since more than fifty per cent of premature labors cannot be explained on grounds of organic disease it seems highly probable that some functional factor is responsible. With the alleviation of anxiety and a different orientation of the mother towards her pregnancy it is conceivable that the incidence of premature labor can be reduced with a program of training.

There is no scientific data to support the idea that the baby derives any benefits from a delivery for which the mother has been well trained. But from an empirical standpoint, and from the opinions of several widely experienced pediatricians, I have the definite impression that these babies have a greater advantage than those delivered from mothers who did not consciously participate in the delivery. These advantages are something more than having avoided excessive drugs and traumatic operative procedures. A great benefit to the child, I believe, is derived from a more genuine and natural maternal relationship.

Many of these changing trends in obstetric practice cannot be supported by scientific data in the strict sense of the word. But the same thing can be said about several other major aspects of medical practice. I believe very firmly in the ideas which have been presented. These ideas have evolved from a combination of studying many patients and developing a new philosophy which has led me to the following conclusions. The preparation for maternity and motherhood is an extremely important aspect of our society, and that as physicians we have an opportunity to contribute both immediate and delayed benefits if we will take up the challenge of treating obstetrical patients as individuals. It seems worthwhile to further explore the concept that many obstetrical complications, maternal incapacities, and the mother-child relationship can be materially and significantly influenced in the prenatal period.

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The Treatment of the Postthrombotic State [*]

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Patients who have had deep thrombophlebitis or bland venous thrombosis affecting a large venous channel are prone to develop subsequently very annoying and sometimes disabling sequelae. It is my conviction that the first step towards the prevention of these sequelae is the prompt recognition of acute thrombophlebitis and phlebothrombosis and their early active treatment. The management of acute venous thrombosis does not end when the patient becomes ambulatory but should continue without interruption until he has been returned to a state where he has a comfortable limb and one which does not exhibit edema even with ordinary dependency. Particularly when such measures are not carried out religiously, and on occasion even when they are, the patient is likely to develop certain signs and symptoms characteristic of the postphlebitic or postthrombotic state.

The commonest difficulty is the development of dependent edema. Usually the edema subsides completely or nearly completely with a night's rest in bed. It increases in extent during the day and is definitely related to dependency. The patient may have, in addition, an annoying aching, tired feeling which is most commonly felt in the calf and which is aggravated also by dependency and relieved by elevation. He may develop dermatitis, generally confined to the anteromesial aspect of the leg in the supramalleolar area. A brownish or violaceous pigmentation may appear in the same general area and, as time passes, ulceration. In addition, certain painful sequelae may follow venous thrombosis.

In treating the postthrombotic state it is important to bear in mind that venous return is best under two circumstances — first, when the limb is elevated well above heart level and, secondly, when the pumping action of muscular activity is in force. Venous return is poorest when the limb is dependent and inactive. Whenever a patient presents himself with postphlebitic sequelae it is important that he understand that treatment is a long continued process and that there is no quick and magic remedy which can be applied effectively to relieve him at once of his complaints. It is essential that he pay particular attention to edema and to its prevention. If the edema subsides completely at night-time, he may be permitted to sleep with the bed in a horizontal position. However, if there is any residual edema whatsoever when he awakens in the morning, he must adopt the habit of sleeping with the foot of the bed elevated and the head depressed. He must use appropriate snug elastic support at all times when he is up and about. A well-fitted elastic stocking extending over the proximal half of the foot and up to the knee is suitable for support in the milder cases. A much more effective elastic support is available, however, and should be used in all cases of rather massive edema and, particularly, in all cases in which healing of a long-standing or recurrent ulceration has been achieved. I refer to the Aero-Pulse Legging which was described by Merle Scott. This is a legging which is made to fit the patient and is equipped with a zipper mechanism which permits its easy removal and application. On the inside of the legging is an inflatable rubber bladder. After the bladder has been inflated an automatic valve mechanism decompresses it to the desired pressure. The patient thus has continuous air support applied evenly over the leg. It has the distinct advantage of pliability and there is good evidence to support the belief that the shifting of pressure from one portion of the leg to another with ordinary walking exerts a sort of pumping action. Being impressed with the potentialities of the use of air compression before the Aero-Pulse Legging became available, I employed with considerable success in a number of patients the legging of an ordinary gravity suit designed for pilots. While using this crude air compression legging a number of studies were carried out. It was possible to show that the pressure within the balloon rises and falls as the patient walks about and changes the volume of his leg by muscular contraction and relaxation. Not infrequently patients at first will be somewhat rebellious about the use of proper elastic support, stating that such compression always increases the discomfort. As a matter of fact, they are all quite comfortable if they use elastic support properly with the ancillary measures which are necessary in the management of such cases.

[†] From the Department of Surgery, the Indiana University Medical Center, Indianapolis, Indiana. Aided in part by a contract between the Office of Naval Research, Department of the Navy, and Indiana University.

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The patient must be started out on an entirely new regimen. It is important for him to lie down and rest with the limb elevated whenever he develops aching or fatigue or a sense of swelling in the extremity. As days and weeks pass by he finds that he can be up and about for increasingly long periods of time before having to take such rest. Eventually in most instances he is able to be up all day long and to lead a perfectly normal active life without discomfort or a sense of tightness in the limb. The elastic compression must be worn for at least a month or so beyond the time when there is evidence of any swelling whatsoever. One rarely encounters any resistance to the use of proper elastic support in male patients. Female patients, however, object to the use of such measures because they are conspicuous. Rarely can a female patient be persuaded to use the Aero-Pulse Legging unless recurrent or persistent ulceration over a long period of time has convinced her that her physical appearance is less important than the prevention of further ulceration. In such patients one often has to compromise with the use of two tight elastic stockings, one applied over the other.

The patient must be made to understand the tremendous value of muscular activity and the harmful effect of quiet dependency. When he is up and about he must learn not to stand perfectly still but to walk about instead. When he is sitting he must pay particular attention to the advisability of frequently exercising his toes and ankles. In addition, he should not sit for long periods of time but should interrupt his sitting by getting up and walking around. This type of advice comes as somewhat of a surprise to most patients who have the mistaken notion that the affected extremity tolerates quiet sitting better than walking. Perhaps this is a hang-over from the long-continued, improper custom of allowing patients who are ill to get out of bed and sit first before walking, a policy which I think has no rationale whatsoever and should be discarded. The regimen which I have outlined is an essential part of the treatment of postthrombotic sequelae regardless of other specific measures which may be utilized.

A small number of patients develop a remarkable hyperesthesia of the skin and subcutaneous tissues of the affected extremity. They are hardly able to stand even the lightest pressure and are thoroughly miserable. This condition, which bears a close similarity to minor causalgia and undoubtedly is a manifestation of this ill-defined group of conditions, invariably in my experience responds well to sympathetic denervation. After operative sympathectomy the limb is no longer sensitive to touch and it is painless. This complication constitutes one of the few clear-cut indications for sympathectomy in the management of postthrombotic sequelae. An occasional patient has a bursting type of leg pain which not infrequently also disappears after sympathectomy. Sympathetic denervation generally has no beneficial effect as far as edema itself is concerned. I have, to be sure, seen an occasional patient in whom some subsidence of edema followed sympathectomy, but, by and large, patients have not had any demonstrable decrease in edema after this operation or after repeated procaine sympathetic blocks. The same, in general, holds true with the aching discomfort which is related to dependency. Once in a great while one sees an exceptional patient who undergoes marked relief of this dependent discomfort but most of the patients find that sympathetic denervation has little or no effect in this respect. As I have already mentioned, the dependent pain and the dependent edema can generally be controlled effectively by a proper regimentation with periodic rest and elevation and constant use of elastic support. After having had venous thrombosis some patients develop rather intense sympathetic over-activity in the foot. In most instances, however, the coldness of the foot and the increase in sweating is minimal if present. In some patients, on the other hand, these changes are so severe as to necessitate treatment by operative sympathetic denervation, which abolishes them completely. Some of them have annoying sensitivity of the foot to cold and others have such hyperhidrosis that it leads to intractable epidermophytosis or even maceration of the skin.

When dermatitis is present it should be treated aggressively. The most effective measure is to put the patient to bed with elevation with the foot of the bed upon blocks, combined with good local care of the area of dermatitis. Often the dermatitis subsides quickly under such conditions with no local medication. Calamine lotion may be effective if vesiculation is present. When the affected area is moist and weeping, wet dressings soaked in one-half per cent aluminum subacetate solution or with dilute potassium permanganate solution are useful. If the patient cannot be persuaded to undergo treatment requiring bed rest, the most important aspect of management concerns the prevention of edema by adequate elastic support. Any active epidermophytosis should be treated vigorously. In some patients with chronic dermatitis there is every evidence of marked sympathetic over-activity. In some of these cases not only is sweating excessive in the homolateral foot but one can demonstrate marked hyperhidrosis in and about the area of dermatitis. The healing of the dermatitis in such cases and prevention of its recurrence is definitely facilitated by rendering the limb anhidrotic by sympathetic denervation. It is important to keep in mind that only the mildest applications should be used locally in cases of dermatitis due to venous stasis and that, regardless of the method of treatment used, effective control of edema must be maintained. If superficial varicosities have developed, they should be treated.

The management of chronic ulceration is rather difficult and requires individualization although certain broad principles pertain to the care of all cases. In the first place, it is important that postphlebitic ulcers be treated promptly and effectively when they first appear rather than to permit them to persist over a long period of time. Regardless of the specific local treatment used, it is essential in the prevention of recurrence that the patient effectively control any edema which is present by a proper routine of adequate elastic support and periodic rest and elevation. Any superficial varicosities which may be present should be treated. If there is no demonstrable induration in and about the area of ulceration, the problem of securing adequate healing is greatly simplified. Not infrequently such ulcers can be healed with the patient ambulatory provided that they are kept clean with soap and water and edema is effectively prevented by compression dressings. The best dressings for such a purpose are the Aero-Pulse Legging, an elastoplast bandage to the leg and ankle, or some medicated boot such as the Unna paste boot. Generally much time is saved, however, if the patient is placed in bed with the foot of the bed raised upon blocks, and this plan of management is certainly preferable. The ulcers should be kept clean and no irritating ointments should be used. The ulcerated area should be washed carefully at least once every day with soap and water or phisoderm and water. Wet dressings should be applied continuously. Ordinarily, normal salt solution is used. If there is evidence of pyocyaneous infection, dilute solutions of acetic acid are advantageous. Antibiotics and chemotherapeutic agents should not be applied locally. If the ulcer is small and epithelization is rapid, a satisfactory result is obtained. If the ulcer is large, however, it is far preferable to place a split-thickness graft over the granulating surface.

Good results are not obtained from treatment of this sort, however, if the tissues beneath and around the ulcerated area are indurated. In such cases there is only one satisfactory method of treatment and this consists of wide, deep excision, not only of the ulcerated area itself, but of the underlying and surrounding tissues which are indurated. At the same time it is important to ligate and divide incompetent perforating veins which supply this area. In addition, of course, any existent superficial varicosities should be treated. It is essential to try to render the ulcerated area clean with good local care before excision is carried out. If the residual tissues are healthy in appearance, a split-thickness graft can be applied immediately. When there is doubt about the suitability of the base of the surgical defect for receiving a graft, it is better to wait a few days until granulation tissue has covered it before applying the skin graft. The results of this procedure are poor if the operation has been inadequate and the thick scar underlying the ulcerated area and around its periphery is not completely excised. The results are excellent if the procedure is carried out properly, provided that the patient continues thereafter to use effective elastic support in the prevention of edema as long as it is necessary. Such patients have to be made ambulatory gradually. If, as soon as the skin graft is firmly united, the patient is permitted to be up and about as desired, and this is particularly true if proper support is neglected, the graft may break down in part or completely. Instead, the limb should be properly supported with compression and the patient should spend a number of days gradually increasing normal dependency until he can become fully ambulatory.

One of the most troublesome sequelae of venous thrombosis is a tendency to recurrent attacks of phlebitis. Fortunately, this does not occur frequently. The simplest type of recurrent thrombophlebitis to manage is that in which the phlebitis is superficial and is limited to various segments of the major saphenous vein. High saphenous ligation and division accompanied by obliteration of patent portions of the major saphenous varicosities with sclerosing agents ordinarily is effective in preventing recurrences. A still better method of management is to strip out the entire vein. The treatment of recurrent deep thrombophlebitis is in a rather unsatisfactory state. Occasional patients have been noted to have subsidence of attacks or fewer recurrences after sympathetic denervation but this procedure cannot be relied upon effectively to prevent recurrences. The same holds true for proximal ligation and division of the vein. There is no convincing evidence to suggest that the long-continued use of chemotherapeutic agents is effective. The best method of management, and it is not entirely satisfactory, is the long-continued use of the anticoagulant agent dicumarol. The same treatment offers the greatest promise in cases of migratory superficial phlebitis though not all patients cease to have attacks during adequate anti-coagulant therapy and still others, who respond well during the period of treatment, begin to have recurrences once the treatment is discontinued. Naturally, if the migratory phlebitis is thought to be a part of thromboangiitis obliterans, it is of the utmost importance that the patient cease the use of tobacco. If the phlebitis in such cases is limited to the lower extremities, bilateral operative sympathetic denervation appears to be of some benefit in preventing or reducing the number of recurrences. One rare, persistent sequel of superficial thrombophlebitis should be mentioned. In an occasional patient the affected venous segment remains quite painful and sensitive to touch over an indefinite period of time. Such patients should be treated by local excision of the thrombosed vein.

The question naturally arises as to the possible role of division of veins in the treatment of the postphlebitic or postthrombotic state. This treatment is based upon the premise that the thrombosed vein invariably becomes recanulized with the passage of time and that such recanulized veins, having lost their effective value mechanisms, no longer propel blood in the proper direction when the limb is dependent but, instead, permit regurgitant blood flow towards the periphery. A number of investigators have felt that division of the femoral or popliteal vein was followed by noticeable improvement, diminishing discomfort and edema and facilitating the healing of ulcerated areas. I have treated with satisfaction a number of patients either by femoral vein division, popliteal vein division, or both. It was difficult, however, to be certain that the benefit experienced by these patients was due to the vein interruption itself and not to the good supportive measures which were concomitantly instituted. In general, division of such veins was limited to cases in which a retrograde flow of Diodrast was demonstrated when venograms were performed by injection into the femoral vein with the limb dependent. During the past two years my associates and I have been trying to learn as much as we could about functional venography in which both dependency and active muscular exercise are employed. These studies have demonstrated clearly that the recanulized vein can propel blood in the proper direction when the limb is dependent and is actively excercised. More study is necessary before the method of venography which we are using can be fully evaluated with regard to its value and its limitations. If our present interpretation of such venography is correct, we have not encountered during this period of time any patient in whom venographic evidence suggested that vein ligation was clearly indicated. At the same time the general measures which I have outlined have yielded such consistently good results that, unless more convincing evidence of its worth is forthcoming, I feel that ligation is rarely, if ever, indicated in the treatment of the postphlebitic or postthrombotic state.

The management of the sequelae of venous thrombosis is tedious, and requires enthusiastic interest on the part of the physician and complete cooperation on the part of the patient. The broad principles which underlie the management of these problems appear to be well established. When followed they yield gratifying results.

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The Treatment of Carcinoma of the Cervix *

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A YEAR AGO in New York City a committee representing many of the societies in our specialty met with the European delegates to see whether or not we could agree upon an international classification for staging carcinoma of the cervix. Although this ended with a complete acceptance by all those present, there was still a great difference of opinion revealed during the discussion periods. It was only when the chairman, Professor Heymann, implored us to agree, because, he said, the medical profession may be the first to agree on anything internationally, and therefore we may set an example, that we did agree. You are all familiar with the new International Classification as published, I am certain.

Group O is something we needed. Since the popularization of pre-invasive carcinoma following publications of Schiller and Meyer, who went back many years to reintroduce this pathologic finding which had been recognized and discussed and then fell by the wayside, as so often happens with new knowledge, we began to have a great number of five-year arrests in our group 1 or stage 1 carcinomas. Pre-invasive carcinoma—carcinoma *in situ* or surface cancer, whatever you wish to call it—was included in the Group 1, where it does not belong.

We do not know enough about the behavior of carcinoma *in situ.* We do not know enough about its activity, how long it is going to stay pre-invasive. We glean from the literature that pre-invasive carcinoma has become invasive in six months, in fifteen months and as late as nine years after its recognition. We determine from this that pre-invasive carcinoma is a condition that can be present for many years.

There is a great interest in this stage of cancer, especially since we have mail order cytologic diagnosis. Smears are made. They are placed in a mailing container and sent off to a laboratory where they are interpreted without the aid of clinical data or a knowledge of how the material was gathered, and the patient is either given a clean bill of health or she is condemned by this single cytologic study.

Because of this practice, uteri are being sacrificed in young women, and many uteri are remaining until invasion of the carcinoma has resulted and the patient has lost her chance of regaining health.

Group 1 is the most discussed division of any classification. In the League of Nations and in the International Classification we say that in Stage 1 the carcinoma is still confined to the cervix. I believe that is one of the most difficult diagnoses or differentiations we are called upon to make.

Is that carcinoma still localized to the cervix, or is this edema in the paracervical area or in the perimetrial area just inflammatory reaction, or is that inflammatory reaction plus cellular migration through the lymphatic chain?

We, therefore, are of the opinion that if we are going to have an early group it should be minimal. It should embody every carcinoma from the time there is any evidence of microscopic invasion until it has reached a certain definite size, which we have elected to be 1 cm. in circumference. Whether it is exophytic or endophytic makes no difference.

An example of the fallacy of assuming that carcinoma which is still localized to the cervix is an early stage is the fact that, surgically, we have obtained evidence that 20 to 25 per cent of Stage 1 carcinomas have lymph node extension. Thus we are admitting a 25 per cent error. If we take as Group 1 a carcinoma limited to a 1 cm. area, the relation to nodal invasion is less than 2 per cent in studied surgical specimens.

I am, therefore, of the opinion that the clinical staging of tumors is in a state of confusion and that it needs further study and re-evaluation.

After arriving at a clinical classification we are able to discuss therapy intelligently. Until that time I cannot clearly convey to you my thoughts relative to a specific lesion. But if you and I agree on a grouping or a staging, then when we say I have so many in this group or so many in that stage that I treat in this manner, we immediately follow one another and we will have a universal report of end results.

The variation in published statistics of numbers of cases in the various groups again demonstrates that our interpretation differs. There is always the matter of human error to contend with.

I am still of the opinion that the treatment of carcinoma of the cervix is radiation therapy. I will mention the indications which we in our clinic believe call for surgical procedure.

There is confusion and variation of end results, evidenced in reports, with the use of irradiation therapy, as in the published surgical statistics. This we believe due to the varying ability of radiologists and surgeons. As Dr. Kelso has so ably said, he could send away for radium.

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We can also send to the surgical supply house and get a scalpel. In neither case do we qualify as a radiologist or a surgeon.

I do believe that hospital regulations are a little more stringent as to who may do extensive surgery than as to who may insert radium.

The reports that appeared recently in the *Journal* of the American Medical Association (Vol. 146, p. 1310, Aug. 4, 1951) relative to a number of patients with carcinoma of the cervix who survived five years after a simple hysterectomy are equal to those reports of patients who survived following the application of a single dose of 3,500 mg. hours of radium used intracervically. It proves nothing. In the one instance we had a localized radiation-sensitive carcinoma, and in the other instance we had a localized carcinoma. It does not speak for the treatment either way. It just adds confusion.

There are some interesting data in a paper by Meigs reported at the American Gynecological Society meeting this past May. Fifteen cases in his study were deleted by pathologists who reviewed the microscopic slides, all of which had originally been diagnosed by Meigs and his pathologist as invasive carcinoma. Thirteen of those were deleted as patients having pre-invasive carcinoma, demonstrating that the microscopic interpretation of the tissue presented must be thorough and must, when the diagnosis is questionable, be reviewed by several gynecologic pathologists.

It brings up the question of making a diagnosis on a single biopsy specimen. This is entirely inadequate. That is why the grading of tumors as to sensitivity and as to resistance is inadequate information to influence the selection of treatment. We may have a single biopsy from the periphery of a tumor which will indicate non-invasiveness, or a cell type indicating sensitivity, while in another portion of the tumor we have evidence of invasiveness or a more mature and more resistant type of cell which would indicate that we have a resistant carcinoma. Grading of the tumor microscopically, therefore, cannot be accepted as a means of determining the treatment.

There is only one way of determining radiosensitivity and radioresistance, and that is by a trial of therapy, as we have a trial of labor. If the tumor under consideration responds to the amount of irradiation you can place within the tumor-bearing area, you have a sensitive tumor. If, in spite of all the irradiation you can safely place into the tumor area, that carcinoma continues to grow or cellular cytologic study or microscopic examination of the tissue does not show the characteristic change within the cell and the nucleus that you expect from known doses of irradiation, then it is time that you classified the tumor as resistant to be relegated to surgical intervention the minute the irradiation erythema has subsided.

The question of lymph node invasion, the resistance of carcinoma invading lymph nodes or carcinoma within lymph nodes, to irradiation, is still a much disputed question, in spite of the work of Brown, Hendrickson, Morton, Taussig and others.

We still see the statement appearing time and time again that carcinoma invading lymph nodes are resistant to irradiation; and still there are more and more data accumulated from the autopsy study of material and from the surgical material recovered following pre-irradiation to demonstrate that there are fewer nodes present in those patients subjected to irradiation than in those patients who have not been irradiated.

Suppose we admit that all carcinoma that has invaded lymph nodes is resistant. Then let us turn to Meigs' recent report. In his stage 2 carcinomas with positive lymph nodes there was only one patient who survived the five year period. We must deduct from this that when carcinoma has extended beyond the primary zone of defense, the lymph nodes at the junction of the ureter and the uterine artery, and possibly those up to the level of the bifurcation of the common iliac, either irradiation or surgery can be successful in their destruction or elimination. But when glands at the bifurcation of the iliac or the aortic nodes are invaded, neither form of treatment is going to give us anything except palliation.

Brown, in his recent report, has shown us the inadequacy of much of the irradiation that is being delivered to these sufferers at the present time. In studies in which nodes have been exposed and node-bearing areas clipped with Michel clips so that the field as arranged on the skin surface of the patient can be checked accurately with x-ray exposure to determine the lymph-bearing areas, we find that many of the nodes at the bifurcation and along the common iliac, and higher, are not within the field of irradiation. One of the objections to small multiple fields, in my opinion, is the greater danger of missing the tumor-bearing area.

In irradiation properly planned for zone A of the Manchester system embodying the triangle which includes the cervix, there is no question as to the amount of irradiation that can be placed in that area. Except for very few extremely resistant cell types, I am quite sure that we can administer a lethal tumor dose.

However, when we get beyond that area and into zone B, the area of the lymph nodes, that is when our radium effect is almost nil and we have to rely upon external irradiation. We are limited in the amount of external irradiation that can be placed in those areas because of the danger of injury to the bowel, the ureters, the bladder and the rectum.

However, you see reports quite frequently that there is a higher incidence of injury to these structures in non-irradiated patients and that, if we keep our patients living long enough, epidermoid carcinoma (which we felt and taught for a long time remained limited within the pelvis and caused death because of urinary tract complications or peritonitis resulting from bowel invasion) does metastasize to the brain and to the cervical lymph nodes and to the lung; but the patient must be kept from dying of these urinary tract complications and must live long enough to have the disease (which migrates so slowly) extend into those areas.

We have all seen patients with surgically proved cervical neck node extension who lived three and four years before the carcinoma extended to some vital area or caused a complication which took the life of the patient. So, this question of lymph node extension requires further study and certainly a good deal of thought.

There is the question of the combination of treatment. Those who wish to satisfy all of us say, "We will irradiate and then we will operate, and then we will not have hurt anyone's feelings".

That is fallacious reasoning because if the irradiation is to have its effect we know that the fibrosclerosis which results within the tumor-bearing area will oftentimes entrap tumor cells, which, under microscopic examination, are nothing but smudges, ruptured nuclei and irregular appearing cell outlines. But they are entrapped and they are held securely, as is the tubercle bacillus when we heal a pulmonary lesion.

By doing incomplete surgery in this group (which is the usual case because the surgeon electing to use post-irradiation operative procedure most often does a simple total hysterectomy because he reasons the disease is confined to the cervix and, therefore, he need only remove the uterus, and, if he does that, the patient cannot develop carcinoma of the cervix) the cells in the lymphatics and the cells in the surrounding lymph nodes are oftentimes freed; our friends at the Radiumhemmitt have shown that surgery added to proper irradiation did not enhance their survival rates in the least.

The question of radioresistance is receiving additional thought and study at the present time because of the evidence that proper support of the patient influences the response of tumor cells to the therapy. In surgical reports, for the most part, we are told that they have selected a young patient who is a good operative risk, she must be in a good state of nutrition, have no cardiovascular disease and be considered a good surgical risk.

That is the patient who also gives the best end result if treated with irradiation. Anemia, infection, vascular disease, all influence the response of a tumor to irradiation and affect our good end results in the irradiated group.

McKelvie, in hospitalizing his patients and supporting his patients, has shown that this is a necessary part of the therapy. Experimental work with tumors has shown that oxygenation of the tumor is important; anemia, nutrition and infection influence the tumor response. Today, antibiotic therapy, blood replacement, proper nutrition of the patient, all are important and necessary for the support of the irradiated patient, as well as for the patient receiving surgical treatment.

What, then, is the place of surgery in the treatment of this disease? I think that we all agree that stage 0 is best treated by surgical methods. They are young patients, the average age being 36. They are patients still in active reproductive life, carrying on marital responsibilities. There is no proved invasion. Why should we sacrifice the gonads? Why should we use irradiation and cause changes within the genital tract not acceptable to these young women?

The extent of the surgery necessary is still being discussed. There are those who maintain that conization or amputation of the cervix is adequate. There is no question but that cauterization has been adequate treatment in many instances. Why would we have the numerous reports of a lowered incidence of carcinoma in cervices that have been subjected to cauterization if some of these pre-invasive lesions had not been destroyed? We now have the explanation.

We have been told that chronic cervicitis is a precancerous lesion and that if we took away the irritation we would prevent carcinoma. This is not the explanation. What we did was to destroy pre-invasive carcinoma by extensive fulguration, cauterization or conization, and in that way we prevented the formation of invasive carcinoma.

We sacrifice uteri for other reasons than pathology, as Norman Miller reported some years ago. Here we have very definite pathology. Therefore, in our clinic we elect to remove the uterus, not only to do away with the possibility of the same factors producing another lesion in that uterus, but to subject the entire cervix to serial section and be sure that we are dealing with a pre-invasive carcinoma.

In clinical Group 1 carcinoma, Schmitz Group 1 (that is the late Henry Schmitz, not myself) you may elect surgery if you are competent and can perform the radical operation, not the Wertheim procedure which is nothing but a total hysterectomy with some perimetrial tissue removal. The name should not be associated with the present day procedure as described by Meigs and Brunschwig. That has been brought up time and time again. Meigs now divides the pelvis into two troughs and does an extensive anterior dissection as well as a posterior dissection. If at this time a proper and extensive lymphadenectomy is done, all the presacral nerve fibers are destroyed and we do not have to do a presacral neurectomy. Urinary retentions and atonic bladders result from this fact.

The survival rate in Group 1 is excellent with irradiation. It is, according to Hoge, the treatment of choice in all but 1.5 per cent of the 77 medical schools in the United States and Canada.

In the radioresistant tumor, or the tumor that persists or recurs within weeks from the time it was subjected to irradiation, you have no selection. Either you give up or you resort to the extensive surgical procedure, accepting any mortality, any incidence of injury that might take place, just as when a patient had survived long enough for you safely to repeat the irradiation dose and you reason that by extensive irradiation you can again arrest the tumor you will be forgiven if you cause fibrosis of the bladder or stenosis or stricture of the rectum or rectosigmoid, because that patient isn't any worse off than if you did an abdominal perineal resection and cystectomy and left her with a wet colostomy.

This procedure of pelvic exenteration, or North or South American procedures, has its place in some clinics. There are a number of those patients who are living happily. Our oldest patient is now over four years free from disease. It is not a routine procedure. The cases are carefully selected.

Can you irradicate the disease by this procedure, or are you just doing something palliative, as Dr. Dockerty so ably put it? We leave that decision to the patient. Is the patient going to be comfortable? Is she going to be well enough to appreciate the additional months, or is she going to live those additional months to regret that she met you?

CONCLUSIONS

There was great need for a revision of our methods for staging cancer of the cervix. The addition of subgroup 0 to include pre-invasive cancer was timely; confusion resulted from inclusion of these cases in Stage 1 by some authors while others held them as a separate group. Too little is yet known of the behavior of these lesions and they can be better evaluated if kept separate from invasive cancer.

The division into four stages, according to the International Classification, is wanting as there is a 20 per cent error in the Stage 1 cases because of unrecognized lymph gland invasion.

Irradiation therapy is the accepted method of choice in treating cancer of the cervix. Failures of treatment do result because of tumor resistance, susceptibility of host and extension of the disease beyond the true pelvis. More thorough planning and administration of the therapy and support of the patient adds to the good end results. In resistant tumors extensive surgical irradication is permissible and may salvage some. The extent of the surgical dissection necessary to treat cervix cancer successfully by this means necessitates special surgical training and ability with trained personnel and special equipment to care for the complications. Without this the surgical procedure will fail.

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Some Urologic Problems Encountered in General Practice*

A. LYNN HERRING, M.D.
Memphis, Tenn.

A specialist has been described as a man who knows more and more about less and less. A general practitioner and family physician encounters, at one time or another, about every problem possible in medicine and therefore must know something about everything. Elmer Hess has said that "every general practitioner of medicine is, or should be, a urologist of sorts". Many urological problems are encountered daily which can and should be treated by the general practitioner. We all appreciate the fact that the greatest volume of the urologist's practice stems from that of the general practitioner who has recognized a urological condition and wishes consultation with it or is unable to handle it and refers it for that reason. It is impossible to include in the scope of this discussion all of the problems encountered. Therefore at the suggestion of some of your members a few of the more common ones will be discussed.

Congenital stenosis of the urethral meatus is often encountered in the newborn infant and is easily overlooked. The usual story is that the parents notice that the child has pain and straining on urination. Often there is a crusting discharge at the penile tip which may bleed and cause spotting of the diaper. A skin or diaper rash of variable severity is usually present. In the so-called pinpoint meatus the urethra does not empty post-voiding. Stagnating urine in the fossa varicularis becomes a source of irritation and inflammation with resulting scarring which further contracts the orifice. In neglected cases, chronic overdistension of the bladder, hydroureters, hydronephrosis and destruction of the kidneys may supervene with death resulting from uraemia.

The treatment is a simple meatotomy which in the infant needs no anesthetic. A small artery forceps is used, inserting one jaw within the urethral meatus to the floor of the urethra posterior to the urethral web or in the region of the frenulum and closing the hemostat tightly for five minutes in order to crush this tissue and render it avascular. The hemostat is then removed and crushed web is incised in its midline with a small knife blade or sharp pointed scissors. There is usually no bleeding and if so, digital compression for a few minutes will control it. No sutures are needed. The wound usually heals within one week. The incision should be kept from healing across the mid-line by using manual pressure after each voiding, to keep the cut lip of the meatus separated until the edges are completely healed.

In older children and adults this method of meatotomy can be used after injecting one per cent novocaine or procaine into the base of the web and frenulum. A dilator may be given these patients to pass thru the meatus twice daily or instructions regarding manual separation of the outer edges until they are healed.

Phimosis is another common condition which is present in almost all male infants but by the time they have reached puberty it usually disappears. In some persons, however, there are congenital adhesions between the inner leaflet of the prepuce and the glans which prevents retraction of the prepuce. Some patients have stenosis of the preputial meatus caused by repeated insults of inflammation which result in a cicatricial contracture. Paraphimosis is the condition existing when the prepuce has been retracted posteriorly over the glans penis and due to edema or tightness cannot be returned to its normal position. It is a well known fact that carcinoma of the penis is almost unknown among the people who circumcise all male infants as a religious ritual. Therefore we have come to regard a phimosis or tight prepuce as predisposing to carcinoma of the penis.

The treatment of phimosis is circumcision which is a minor operation, but one often badly performed. It is in reality a plastic operation on the penis. A general anesthetic of sodium pentothal intravenously or a low spinal nerve block is preferred in order to prevent distortion of the tissues by the injection of novocaine. With the penis and prepuce in a relaxed and natural position, a circular incision is made through the skin of the outer leaflet of the prepuce at the site of bulging of corona of the glans penis. The prepuce is then retracted. A circular incision is then made through the mucosal portion of the prepuce ½ cm. posterior to the coronal sulcus. The skin then is dissected away between the two circular incisions. This method leaves all the subcutaneous tissue. It disturbs the nerve supply around the frenulum to a minimal extent. There is little bleeding because no large vessels are cut across, as is the case in other methods. The skin and mucosal edges are now sutured together using no. 00 plain catgut on an atraumatic needle, leaving every other suture long after first tying, so that a strip of vaseline gauze can be tied in the suture ends as a permanent dressing. The catgut is absorbed in about seven to ten days and the vaseline gauze peels off like a scab leaving the line of incision already healed. Thus there are no sutures to be removed. In adults five milligrams of diethyl-stilbestrol are given intramuscularly before circumcision and five milligrams by mouth three times daily for three to five days post-operatively to prevent painful erections.

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* Presented at the quarterly meeting of the Northeast Mississippi Medical Society, Amory, Miss., Sept. 1952.

Other malformations of the urethra that are usually noticed first by the general practitioner are hypospadias and epispadias. In hypospadias the urethra opens on the ventral surface of the penis and may vary anywhere from the region of the frenulum to the penoscrotal angle. The penis has a downward curvature in the more severe cases. It should be emphasized that these patients should never be circumcised as valuable tissue would be sacrificed which might be needed later for the surgical correction of the defect. Several operations have been devised to reconstruct the urethra after correction of the downward curvature of the penis. Operation should be done before the child starts to school for psychological reasons.

Epispadias is rarely seen except in cases of exstrophy of the bladder. The usual treatment for this condition is transplantation of the ureters into the sigmoid and plastic repair of the genitals.

A patient may notice a hard mass forming in the penile shaft and consult his physician for fear of cancer. The mass is ordinarily painless but on erection the penis will have a curvature which may cause painful intercourse. The plastic indurations of the penis are non-inflammatory plaque formations in the corpora cavernosa and is commonly known as Peyronie's disease. They are not malignant and frequently do not cause much disability. We do not believe in attacking the condition surgically which is contrary to the opinion of some urologists. Large doses of vitamin E in the form of tocophorex and radium therapy will often soften the induration and stay the further progress of the plaque formation.

Cryptorchidism or failure of one or both testicles to descend is a common occurrence. Hormonal therapy in the form of antuitrin-S should be tried to stimulate the growth of the genital organs and cause the testicles to descend into the scrotum. Two or three hundred rat units given intra-muscularly three times a week according to the age of the child. If there is no improvement in eight weeks the treatment should be discontinued as prolonged administration of the hormone may cause undesirable effects. Surgical intervention in the form of orchiopexy should then be done before the child reaches puberty so as to prevent sterility.

Acute epididymitis is commonly found in men of all ages and often occurs spontaneously without any evidence of urinary tract or prostatic infection. The onset is usually rapid with pain and swelling of the epididymis, redness of the scrotum, general malaise, fever and leucocytosis. The treatment is bed rest, support of the testicles by adhesive strapping or a suspensory, ice cap to scrotum and antibiotics usually in the form of penicillin and terramycin. Antipyretics and sedatives should be used for symptomatic relief.

Testicular tumors are often diagnosed with difficulty as they may simulate epididymo-orchitis, hydrocoele or hematocoele. They may or may not be painful and tender. They have a firm, solid and heavy feeling and may be irregular in shape. A malignancies of the testicle can be the most rapidly fatal of all types of cancer. They metastasize early to regional and mediastinal lymph nodes and to the lungs and bones. Seminomas are the least malignant of the testicular tumors and if discovered in time a five year cure may be obtained. If on physical examination a tumor of the testicle is suspected, get consultation that day if possible as the time element enters into this condition more than in any other type of malignancy.

Hydroceles are usually easy to detect by palpation and transillumination. It must be borne in mind that the hydrocele may be secondary to an inflammatory or malignant process. It is often advisable to aspirate the fluid with needle and syringe in order to palpate the structures within the scrotum. Treatment of large hydroceles of more than 100 cc. capacity should be surgical exposure and trimming away the sac or everting it and suturing around the epididymis. The smaller hydroceles can be aspirated and a sclerosing agent injected, such as quinine and urethane hydrochloride 1 cc., or sodium morrhurate 5cc.

Urinary tract infections are of interest to every physician because regardless of one's specialty these conditions are encountered almost daily. The family physician and general practitioner are often the first to be consulted in the treatment of these diseases.

Pus in the urine may have its origin from an infection involving any point from the renal cortex to the urethral orifice. It is beyond the scope of this discussion to deal with the diagnosis of urinary infection. There are a few points, however, concerning the collection of urine which are of practical interest. In the male it is a good practice to collect a two glass specimen. If pus is found only in the first glass, it would indicate that its source is from below the vesical neck, that is, in the prostate or urethra. If pus is present in both glasses it is assumed that infection is present in the bladder and/or in the upper urinary tract. If a third glass obtained after prostatic massages contains pus whereas glasses no.

1 and no. 2 are clear, it indicates a prostatitis. In females if the voided specimen is negative, it may be certain that the urine is free of pus, but if the specimen contains pus a catheterized specimen should then be obtained to be sure that the pus cells did not have their origin from the vulva or the vaginal introitus.

An ordinary Gram's stain of the urinary sediment, which is an easy office procedure, furnishes much information as to the type of infection and gives an important clue as to the best drug to be used in treatment.

The drugs and antibiotics which may be used in treating urinary infections are the sulfonamides, penicillin, hexamethylamine (sold under trade names of uritone and urotropine), mandelic acid, neoarsphenamine, mapharsen, streptomycin, aureomycin, chloromycetin, polymyxin, gantrisin, acriflavine, caprokol and the azo dyes. The drugs among this group that are of questionable value and should receive little consideration in the treatment of urinary infections are acriflavine, caprokol, the azo dyes, sold under trade names of serenium and pyridium. Under the same category should come sandalwood oil and methylene blue. Some of these drugs do have an analgesic effect in palliating the symptoms of inflammation of the urinary tract.

It has been shown that the sulfonamides will cure 93 per cent of the Gram negative bacillary urinary infections. Since these organisms are the cause of approximately 85 per cent of the infections, the sulfonamides are the logical drugs to use first. They are usually well tolerated, can be taken orally at home, and are available at low cost. If the desired results are not obtained in a week certainly some type of antibiotic should then be tried. The sulfonamide of choice is gantrisin which causes no undesirable symptoms and is very soluble, causing no crystals in the urine and necessitating no alkalies.

The usual dosage is 1 gram or 2 tablets every 6 hours. At the beginning of treatment 1 gram every 4 hours may be given. The antibiotic of choice is terramycin given in doses of 250 milligrams every 4 or 6 hours. It is effective against a wide spectrum of bacteria but may cause diarrhea and gastro-intestinal disturbances.

Penicillin is the most abused antibiotic today in treating urinary infections. It is a common occurrence to see a patient with a bacillary infection who has been treated a week with penicillin with no improvement. It is effective only against gonococci, staphylococci and beta-hemolytic streptococci. It has no effect against streptococcus fecalis or viridans, both frequent invaders of the urinary tract. In the case of a mixed infection of cocci and bacilli, it is advisable to prescribe sulfonamides in conjunction with penicillin.

Streptomycin is very effective against E. coli and moderately so against other Gram-negative organisms. Aureomycin and chloromycetin are closely related antibiotics and have a comparable effect on the Gram-negative group of organisms with the exception that chloromycetin is effective against strains of bacillus proteus. Effective doses of these drugs are 250 milligrams every four to six hours for six to ten days.

Mandelic acid and methenamine are very effective against Gram-negative infections if an acid urine is maintained. Neoarsphenamine and mapharsen are very good against staphylococcal infections of the kidney and are a specific for amicrobic pyuria, a virus condition found in young adults characterized by distressing bladder symptoms and pyuria in the absence of bacteria. Usually four to six injections of small doses of the drugs at three to five day intervals produce a cure.

Needless to add that any urinary infection which resists the ordinary treatment should have a complete urologic examination to rule out calculi, stasis, hydronephrosis, pyelonephritis, prostatitism or other causes contributing to a chronic urinary infection.

Many women, especially from middle age on, suffer a most annoying frequency and urgency of urination, which they find incompatible with normal social and occupational activities. Usually a catheterized specimen of urine is negative. Examination will disclose a diminution of the caliber of the urethra and endoscopic examination will show varying degrees of mucosal edema and chronic inflammatory proliferative change, especially at the proximal and distal ends of the urethra. Gradual dilation of the urethra up to a size 30 F followed by the insertion of a cotton-wound applicator soaked in 5 per cent protargol and left in place for 10 minutes twice weekly for 6 to 8 treatments will go far toward alleviating the distressing symptoms. Another treatment found very satisfactory is the instillation into the bladder with a blunt urethral syringe 1 ounce of a solution of furacin 1 : 6 and insertion into the urethra an applicator soaked in the same solution. The bladder should be empty and instruct patient not to void for 30 minutes. Repeat this treatment also twice weekly for a series of six treatments.

The urethral caruncle is a manifestation of this inflammatory reaction and is very sensitive and painful, causing pain and burning on voiding with frequent spotting of blood on underwear or toilet paper. The treatment is excision with fulguration of the base of the lesion. The excised tissue should always be examined pathologically to rule out malignancy.

Hematuria is a symptom, not a disease. It is always an indication for a complete urological examination. Painless, total, gross hematuria is practically always the first symptom of malignancy of the urinary tract. Hemorrhagic nephritis, hydronephrosis, polycystic disease or silent stone may also cause painless hematuria, whereas hematuria accompanied by pain and dysuria may signify tuberculosis, calculi and inflammatory diseases of the urinary tract. It is of interest to note that in urinary tract malignancies of all types that 90 per cent of the patients seen during the first episode of hematuria have a five-year period of survival. However, if there have been two attacks of hematuria the five-year survival rate drops sharply to around 40 per cent. Hematuria is a forewarning in most cases of a serious underlying pathologic process and should not be treated by drugs until an attempt is made to locate the source of the bleeding.

Hyperplasia of the prostate with retention of urine which occurs with advancing years is commonly encountered. Surgery to effect drainage of the bladder is required either in the form of prostatectomy or transurethral prostatic resection. The incidence of carcinoma of the prostate in these cases averages about 20 per cent. The digital palpation of the prostate should never be omitted in the routine examination of any man beyond the age of forty. In this way many early cases will be discovered before they begin to have symptoms. In carcinoma of the prostate a transurethral prostatic resection should be done if the patient is unable to empty the bladder and at the same time a bilateral orchidectomy should be done to deprive his system of the testicular hormones. The after treatment should consist of small doses of stilbestrol or tace. In this way the malignancy can often be controlled or arrested for years and the patient live a normal comfortable life.

No discussion of this type would be complete without mention of the most common urologic condition found in man, namely chronic, nonspecific prostatitis. This can occur at any age and being of a chronic nature requires attention over a long period of time. The patient may complain of pain and burning on urination, dull perineal pain or discomfort, low backache which is often noted before arising in the morning and wearing off as the patient gets up and stirs around, pains referred to the gluteal regions or thighs, premature ejaculation, prostatorrhea and impotence. The patient may be nervous, have headaches and general aches and pains in various parts of the body and mental depression.

The prostate is soft and boggy and tender on digital examination. The expressed secretion and the third glass of urine contain pus and/or bacteria. A magic wand to treat this condition has not yet been found. Sulfonamides and antibiotics are helpful. Hot sitz baths alleviate many of the aches and make the patient more comfortable. Most important treatment is the prostatic massage, which should be given twice weekly at the onset and the interval gradually lengthened to every five or seven days. The passage of sounds and the instillation of various antiseptic solutions into the prostatic urethra are of doubtful benefit. Treatment should be pursued until the pus content of the prostatic secretion falls within normal limits.

SUMMARY

An attempt has been made to bring to your attention some of the more common urological problems encountered by the general practitioner. The discussion of each has of necessity been brief as any one of these could easily furnish the subject matter for an entire paper. It was felt that we could all benefit more by a general discussion of these problems rather than by a detailed paper on a single one.

We, as urologists, feel that the best general practitioner is not the one who refers the most work; but the one who studies his cases well, and uses good judgment and knowledge in applying the principles and practices of modern medicine. When his patients prove to have disorders of the genito-urinary tract which he can recognize and treat, he does so. When he finds himself in doubt or faced with inadequate response to treatment, he looks to the specialist for help. By his thoroughness he discovers much real or potential trouble in its curable or preventable stage. Everyone benefits — the family physician, the specialist, and most important, the patient. Good medicine means good public relations and good public relations is the bulwark in our fight against government controlled medicine.

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The right to speak one's mind freely is limited
only by laws of obscenity and libel.

Otitis Media with Effusion [*]

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OTITIS MEDIA with effusion can be a difficult condition to treat. It is quite a challenge to otolaryngologists. Most cases can be cleared with a few treatments, but many persist in spite of everything which can be done.

I became particularly interested in this condition four years ago and although my series of cases is not large, the gratitude of the individual patients has been great. Two of my patients were ladies past middle life who were already deaf in one ear and suddenly developed poor hearing in the good ear. Naturally, they were very happy to have the hearing in the one good ear improved by treatment. I should like to review briefly some of the outstanding features of the disease and pass along some of the points which have been given me by those who are seeing a large number of cases.

ETIOLOGY — In general, it may be said that anything which will contribute to swelling and closure of the Eustachian tube can be a contributory cause. The most common cause is probably an acute inflammation with swelling of the nasopharyngeal tissue. Hypertrophic adenoid tissue often causes the difficulty in children. Tumors, whether benign or malignant, may give rise to it. Dental malocclusion is often a cause, although frequently overlooked. Robison has advanced the idea that the fluid forms in the middle ear due to blockage in the lymphatic glands which drain the middle ear region. However, a blocked Eustachian tube is not the final answer by any means, or else every blocked tube would be accompanied by fluid in the middle ear. Goodyear feels that many cases in children have some infection of the antra or ethmoids.

Allergy plays a very important role. It has been stated that as high as 70 per cent are allergic in etiology, but many contend that such is not the case since eosinophiles are not frequently found in the fluid. Endocrine disorders, not excluding pregnancy, are potential causes of trouble. Cardiovascular-renal disease may be a potent factor. Hilger has written regarding the activity of the autonomic nervous system. There has been some increase of the condition in children who have received biochemical treatment for a purulent otitis where the pus cells have disappeared and the fluid looks like it never has undergone suppuration. Fluid occasionally occurs after trauma of aerotitis.

Changes in climate, whether humid or dry, and changes in altitude, whether sea-level or higher, and acute upper respiratory conditions have been definitely identified with the disease. It is true that more patients are seen during the winter months, but many of them have had no previous upper respiratory infection.

PATHOLOGY — Two types of fluid may fill the middle ear. One is a thin serous fluid which is a transudate. The other is of a mucous type and is an exudate. It has been stated that the prognosis is poorer with the more mucoid type of fluid. The amount present is variable. Some will change from serous to mucous in character, but usually once the character of the fluid has been established, it remains that way.

SYMPTOMS — All cases present a history of hearing loss, in one or both ears. Some will say that the ears have a completely blocked feeling. There is a sensation of bubbles or fluid moving in the ear, especially if the head is moved forward or sideways or when the nose is blown. There is tinnitus, autophony and some sensation of numbness or deadness over the entire side of the head. One pathognomonic sign is the clearing of the impaired hearing when the head is turned forward or sideways, only to have the impairment recur when a normal head position is resumed. It is probable that the fluid overlying the round window causes the impairment.

DIAGNOSIS — In many instances the diagnosis can be made from the history given by the patient. Inspection of the drum reveals it to be normal in appearance in many cases. Often one can see a fluid level or bubbles behind the drum. The lower part of the drum has an amber color and the upper part frequently has a bluish color. In many cases the middle ear is entirely filled with fluid and the level or bubbles will not be seen. Hoople states that the full tympanum, and the full mastoid as well, are ten times as common as an ear partly filled with fluid. These are the cases which are frequently missed. In cases of long standing, the short process and the handle of the malleus will be chalky white and stand out vividly against the discolored background. This often gives one the idea of some retraction of the drum when actually there is none.

Auscultation is often of help in making the diagnosis. It is not too necessary in those cases where the amber drum is seen, but in many cases the fluid is present behind a thickened and opaque drum and in such a case auscultation can aid one to reach the proper diagnosis. The sounds which are heard are quite varied. Catheterization should be done very gently so that the examiner does not miss the sounds. One should always pay particular attention to the first sound because in many cases the sounds change after the initial puff of air through the tube.

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[*] Read before the eighty-fourth annual session of the Mississippi State Medical Association, Jackson, Miss., May, 1952.

Diagnostic paracentesis is often necessary to reach the final diagnosis. This is carried out in the same manner as therapeutic paracentesis, which will be described later.

The type of hearing loss is not characteristic by any means. Many cases develop effusion superimposed upon a preexisting deafness, which may be perceptive in character. In many cases there is already much inner ear damage. In many cases the degree of hearing loss is quite out of proportion to the amount of demonstrable pathology. Often, in those cases where the fluid is not too abundant, the loss will not be too great because the fluid has settled to the bottom of the tympanum, but this is not common.

PROGNOSIS — It is generally felt that those ears with the greater amount of mucous content will cause more trouble than others. The greater the amount of fluid present, regardless of the type, the more difficult is the case to clear up. In those cases where the fluid has been present for a short time, the prospects of a good result are much better than when it has persisted for a long time.

TREATMENT — Treatment in the past has been on the conservative side and this has been detrimental to the patient. In years past almost every type of therapy except paracentesis was advised. Nowdays most men do paracentesis early and often. There is relatively little discomfort in this procedure, as compared with myringotomy for other types of otitis media, since there is little inflammation of the drum. In many cases no anesthesia is required. Of course, one may encounter an unusually apprehensive patient where an anesthetic has to be used or he may have to use an anesthetic in a child. But this is not the usual case. The incision is usually made in the posterior inferior quadrant just away from the annulus. The pain fibers are at the periphery of the drum and along the long process of the malleus. Eagle states that there is usually some maceration of the lateral wall of the canal near the drum and one must take care not to touch this area in order to keep the patient from moving. The fluid in the middle ear is so thick that it will not exude through the opening in the drum in many cases and must be aspirated with a small tip. Occasionally one must make a counter puncture to permit some air to enter the middle ear cavity so that the fluid can be removed. The hearing is usually improved at once and the patient is frequently relieved of his tinnitus. The incision is small and will usually heal quickly. In some cases where the fluid is very thick, one may desire to make the opening large purposely so that it will remain open for a time. It is better to have a small perforation with a dry ear than to have a marked hearing loss in these cases.

There are many operators who do not catheterize the tube following myringotomy, but it has been my experience that such a procedure greatly improves removal of the fluid. I do not hesitate to do this one or more times during one sitting if I feel that it will aid in the removal of the fluid and help clear the case more quickly.

Many cases will be cleared after one paracentesis, but there are some cases which require repeated treatment. In some cases this must be done a number of times in order to secure a satisfactory result. This should not cause hesitation on the part of the operator.

In a rare case, a mastoidectomy must be performed. In such a case it is wise to leave a tube in place for as long as it takes to get the middle ear dry and the operator should be certain that it is dry and remains dry before removing the drain. Fortunately, this is rare.

One must not forget to treat the case generally. Any type of contributing cause must be isolated and treated if one is to get a good result in any given case. In the early stage, treatment must be directed toward the infection, which has given rise to the effusion. After this has been cleared, other measures must also be used. Hypertrophic adenoid tissue or secondary growth of adenoid tissue should be removed. In some cases radium will be of value in removing some of the congestion about the tubal orifice. Dental malocclusion should be corrected and in many instances gives pleasing results. Allergic tendencies must be investigated and corrected. In children especially, one must clear the sinusitis, irrigating under general anesthesia if necessary. Endocrine disorders should also be investigated and taken care of.

CASE REPORTS — Of the cases I have seen within the past four years, I have four which I should like to present. The return of hearing in some was not too dramatic, but the relief afforded was great and they have been very grateful.

CASE I — A fourteen-year-old white girl, who was first seen on September 18, 1951 stating that she had experienced tinnitus in the left ear as long as she could remember. She had noticed a dull feeling in both ears for several months before I saw her. Examination revealed the typical amber color of the lower half of each drum. Her hearing was as is shown in black. A bilateral paracentesis was performed. The fluid in the right ear was serous but that in the left ear was very viscid and very difficult to remove. However, I was finally able to remove it and she felt much better. She returned to the office approximately one month later at which time her hearing was as indicated in blue and she has not had any more tinnitus. She is now a very happy young lady.

CASE II — A sixty-five-year-old white housewife, who was first seen on August 12, 1950, with a history of marked hearing loss in the left ear for many years. The hearing in the right ear had been poor for several weeks prior to the time I saw her. Both canals were normal in appearance and so was the left drum. The right drum had a characteristic appearance and a fluid level could be seen in the middle ear. Her hearing was as is indicated in black. An audiogram was made immediately after the paracentesis and was as is shown in blue. She left the office a very happy lady. I next saw her on September 19, 1950, and her audiogram was as is shown in red. She has had no further difficulty.

CASE III — A fifty-eight-year-old white housewife who had virtually no hearing in her right ear and was miserable because she had lost much usable hearing in the left ear. She was first seen on January 15, 1952, with an audiogram as is indicated in black. A paracentesis was performed with the removal of much mucoid fluid. Her audiogram was not greatly improved, but she was able to hear conversational voice with ease. Her hearing on January 24, 1952, was as is indicated in blue. She was very happy over being able to hear much better, and so was her husband, who said that he had become quite hoarse shouting to her at home.

CASE IV — A fifty-eight-year-old white public official who was seen over a long period of time before he could decide to have a paracentesis done. Finally, on January 19, 1949 he submitted to the procedure in the right ear. There was a considerable improvement in his hearing. The audiogram tracing in black indicates his hearing before and that in blue the hearing one week following the paracentesis.

SUMMARY

1. Otitis media with effusion is a condition which is often difficult to treat.

2. It may be caused by acute inflammation of the nasopharynx, hypertrophic or recurrent adenoid tissue, tumors of the nasopharynx, dental malocclusion, allergy, endocrine disorders or cardio-vascular-renal disease. In children, infection of the maxillary or ethmoid sinuses causes chronicity.

3. Diagnosis is made on findings of hearing loss plus the appearance of an amber colored tympanic membrane with the presence of bubbles or a fluid level in the middle ear. However, in many cases the tympanum is completely filled with fluid.

4. The prognosis is poorer with very mucoid fluid and in cases of long standing.

5. Treatment consists of paracentesis with correction of contributing causes.

6. Four cases are submitted for study.

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Thrombo-Embolism Following Surgery[*]

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AN EFFICIENT mechanism of intravascular clotting which saves a patient's life at the operating table, may later become his nemesis. The problem of preventing intravascular clotting after surgery and the problem of treating these clots and their disastrous sequelae should they occur, comprise two of the most pressing problems with which modern surgeons are faced.

INCIDENCE

In spite of intensive prophylactic and therapeutic measures to prevent thrombosis and embolism, the incidence of venous thrombosis, non-fatal and fatal pulmonary embolism has increased progressively in the past few years. The incidence of fatal embolism occurring as a complication of deep vein thrombosis is variously reported as 3.4 per cent to 5.7 per cent. Of those patients who survive one pulmonary embolus, 11 to 18 per cent have a second embolus which is fatal.[1] Thus, as shock and infection are becoming more and more effectively controlled, the enigma of thrombo-embolism is becoming relatively more important.

ETIOLOGY

Pathologic intravascular clotting may be due to slowing of the circulation, trauma to the intima or increased tendency to clotting, or to any combination of these factors. Many predisposing factors may operate through these channels.[2] Intravascular clotting begins with the adhesion of thrombocytes to the intima of a blood vessel. The "white thrombus" of platelets serves as a starting point for the true fibrin clot. As thrombocytes continue to pile up on the original clumps, some of them disintegrate and release thromboplastin. In the presence of ionized calcium, thromboplastin converts inactive prothrombin to the active enzyme thrombin. At first, the small amounts of thrombin liberated are inactivated by an enzyme known as antithrombin, which is normally present in plasma. However, when sufficient thromboplastin has been liberated, the thrombin begins to convert fibrinogen to fibrin.

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[*] Read before the fifty-eighth semi-annual meeting of the Delta Medical Society, October, 1952, Cleveland, Miss.

Due to the presence of some obscurely understood acclerator globulins, the process of conversion of prothrombin to thrombin becomes autocatalytic and rapidly gathers momentum. A network of fibrin stands is formed which entraps platelets, leukocytes, and erythrocytes, and the blood vessel may soon be occluded.[3]

DIAGNOSIS

The diagnosis of thrombophlebitis is usually quite apparent. The insidious and embolus producing disease is phlebothrombosis; the correct diagnosis of this condition is often impossible to make with certainty. All too frequently, the disease does not become apparent until the catastrophic appearance of pulmonary infarction. Postoperatively, one must maintain a constant vigilance for "achy" legs, cramps in one or both calves, tenderness in the popliteal muscles, mild swelling, dilatation of leg veins, slight cyanosis in an extremity, or increased anxiety in the patient. A transient elevation in the pulse and temperature are often the first indications of a vascular complication. A positive Homan's sign will often confirm one's suspicions. And, beware of the old man whose legs have always ached! With the utmost diligence in observation, fully half of the cases of phlebothrombosis will go undiagnosed. A case history will be presented to illustrate the frequent elusiveness of this diagnosis.

PROPHYLASIS AND TREATMENT

It is generally evident that no effective means of prophylaxis have been developed. At Charity Hospital in New Orleans the incidence of venous thrombosis has doubled in the past 10 years.[4] At the University of Pennsylvania Hospital, utilizing the prophylactic measures of early ambulation, proximal vein ligation and anticoagulants with careful selection of cases for each procedure, the incidence of fatal pulmonary embolism was not reduced.[5] In general, the prophylactic measures now used are: early ambulation, compression bandages, deep breathing and leg exercises, prompt replacement of blood loss, avoidance of abdominal distention and of heavy sedation and prevention of dehydration, electrolyte imbalance and hypotension.

Treatment consists of deep vein ligation or anticoagulants, in conjunction with bed rest, compression bandages and supportive measures. None of these measures may be guaranteed to prevent a second episode of embolism. Edema following deep vein ligation and hemorrhage following the use of the anticoagulants comprise serious impediments to the routine use of these methods. The Tulane group has been studying the use of alpha tocopherol, which stimulates the formation of antithrombin, and calcium, but so far has not been able to show that these drugs are definitely protective. The basic premise upon which the Tulane group is working is that antithrombin is a titratable factor and a mode of titration has been developed. All patients who are possible candidates for phlebothrombosis and thrombo-embolism have daily titrations run upon them and if the titer is less than 1 to 16 alpha tocopherol (Epsilan-M) is given in conjunction with intravenous calcium salts. The staff members are especially sedulous in the observance of these patients in an effort to recognize immediately the development of phlebothrombosis or any other vascular complication. So far the results of this experimental work have not produced any definite advances in the prevention and treatment of thrombo-embolism, but the group is working along these lines to develop other methods of detecting early intravascular clotting. It has become apparent that if this complication is to be controlled, some simple method of early diagnosis must be developed. It is hoped that some blood test may be developed which will predict which patients are most liable to develop intravascular clotting. Until that time, our only recourse is that of diligent postoperative observation in conjunction with the general knowledge that certain types of patients are predisposed to the development of intravascular clots.

It is this author's opinion, that once the diagnosis of phlebothrombosis of the calf vein has been made, or, in the elderly patient, even presumed, a bilateral superficial femoral vein ligation should be done, removing a segment of the vein, if such is feasible. If a clot is found to extend proximally, this is aspirated. This latter procedure is not without hazard, as fatal emboli may be detached during the aspiration. If the clot extends into the common iliacs, a caval ligation must be seriously considered.

CASE HISTORY

The following history is presented because it is a rather typical one. C. W., a Negro male, 64 years of age, was admitted to the hospital on July 15, 1950. His chief complaint was pain in the right lower quadrant of the abdomen due to an irreducible inguinal hernia; the patient could not remember when the hernia first made its appearance. On many occasions the patient's hernia had "come down" and the patient was unable to reduce it. About an hour prior to admission the patient had begun to have severe pain associated with nausea and vomiting. The patient's general condition was good and there had been no serious illness in the past. Upon physical examination it was found that he had a temperature of 99, a pulse of 90, a respiration of 18, and a blood pressure of 150/70. He was well developed, well nourished, but obviously ill. Physical examination was negative except for the appearance of a large grapefruit. Examinaiton of the patient's lower extremities revealed the presence of bilateral superficial long saphenous varicosities which were quite marked. The patient was taken to surgery and an emergency herniotomy done. At operation a very large defect was found but the bowel was viable and it was not necessary to do an intestinal resection. Approximately 48 hours after the patient had been operated upon, palpation revealed that he had a tenderness in the left calf but no positive Homan's sign was present. Ace bandages were applied to the patient's legs and Epsilan phosphate was begun; this latter being used in conjunction with intravenous calcium gluconate. The next day it had become so obvious that the patient had a phlebothrombosis that a superficial femoral vein ligation was done. The postoperative condition of the patient was good and he was immediately ambulated. Soon thereafter his calf tenderness began to subside. He was discharged on the tenth postoperative day in good condition. He returned to the Clinic in one week and examination at that time revealed that the patient's hernia repair was in good condition but that the patient had swelling in both of his ankles. This was not a pitting type of edema and calf tenderness was minimal. The patient was instructed in the use of Ace bandages and was told to wear them at all times while he was ambulatory. The patient returned five weeks later to the Clinic and all evidence of swelling in his ankles had subsided and there was no calf tenderness. It is to be noted that at no time did the patient complain of pain in his right calf, even though when he returned to the Clinic it was evident that intravascular clotting had occurred in both lower extremities as was evidenced by his ankle edema. This brings to light the point that intravascular clotting following surgery may be symptomatic as well as asymptomatic, even in the same patient.

CONCLUSIONS

1. A pressing problem in modern day surgery is that of intravascular clotting associated with embolism.

2. The incidence of vascular complications following surgery is increasing despite all vigilance to prevent and treat these conditions.

3. A case history is presented which illustrates the fact that even in the same patient phlebothrombosis may be both symptomatic and asymptomatic.

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DISCUSSION

Dr. Fred M. Sandifer, (Greenwood) — Dr. Barr is to be congratulated on an excellent presentation of an interesting and important subject. I would like to emphasize the importance of bilateral vein ligation in the case of phlebothrombosis. The factors which produced thrombosis in one leg have set the stage for thrombosis in the other. It is much wiser to ligate both veins at one setting.

Dr. Barr has dealt with thrombo-embolism following surgery. Surgery is not necessary to cause thrombo-embolic phenomena. A significant number of total cases occur in non-surgical or medical cases but require surgical treatment.

The patient with congestive heart failure due to slowing of circulation is prone to develop thrombosis with subsequent embolism.

It has been frequently observed that venous thrombosis and embolism follow institution of treatment for cardiac decompensation. It has been theorized that digitalis and mercurials have specific effects in hastening coagulation of blood. At present, this view is not accepted. The hemoconcentration and other changes due to diuresis per se are the cause of increased tendency to thrombosis.

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ILOTYCIN TO BE AVAILABLE SOON

The discovery of Ilotycin (Erythromycin, Lilly) in the Lilly Research Laboratories and the preliminary clinical results achieved with this new antibiotic reported by McGuire, et al.,[1] have caused widespread comment. Interest has been heightened by the recent publication of the findings of other investigators[2], [3] who have used this drug in clinical trials and by the editorial in the *New England Journal of Medicine* of July 14, 1952. The daily volume of inquiries reaching Indianapolis has grown so large that some report seems timely on the present status of this new anti-infective agent.

Ilotycin is a white, crystalline compound with an empiric formula thought to approximate $C_{39}H_{73}NO_{13}$. The nitrogen present is not contained in a nitro group, and there is no benzene ring structure in the formula. Its toxicity is low. The oral LD_{50} in mice is from 3000 to 4000 mg./kg. and the subcutaneous LD_{50} is greater than 2500 mg./kg. Clinical tests have shown that Ilotycin is unusually active against most of the pyogenic infections. In the laboratory its effectiveness against pathogenic protozoa, the larger viruses, and certain rickettsiae has been convincingly demonstrated and is under clinical study. The most significant aspect of this discovery is the effectiveness of the compound against some of the common organisms which are resistant to penicillin and other antibiotics in common use. Furthermore, it does not produce drastic changes in intestinal flora and, consequently, does not give rise to the undesirable gastrointestinal side effects so commonly associated with administration of other broad spectrum antibiotics.

Management of Head Injuries [*]

CHARLES L. NEILL, M.D.
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The increasing frequency of the problem of treating the acute head injury in the practice of every surgeon makes a review of the present trends in the management of head injuries a useful discussion. We all know that a certain percentage of patients will succumb to their head injury due to irreversible damage to vital parts of the brain. However, it is becoming more apparent that many patients who succumb are doing so because of altered physiological processes and to pathological processes other than immediate brain damage. To name a few of these, shock, pneumonia, uremia, acute adrenal insufficiency, nutritional failure, and electrolyte disturbances are all secondary physiological changes which require careful consideration. It is not the purpose of this discussion to consider the well-organized syndrome of subdural and extradural hemorrhage, subdural hygroma (which is a leakage of the fluid through a torn arachnoid into the subdural space where absorption is slow and pressure builds up), depressed fractures, or extensive compound wounds of the head. All of these have established indications for appropriate surgery but the same general consideration applies to these patients in their treatment over and above the specifically indicated surgical procedures. A recent trend is to make exploratory burr holes on the least suspicion of focal intracranial bleeding rather than to wait for a well-established and possibly dangerous syndrome to develop.

The first general consideration for the patient with any severe head injury must be to evaluate properly his physiological defects and to supply the factors which are lacking and which are necessary for life. The most important factor is the provision and maintenance of an adequate airway. The patient is a semicomatose state with a good cough reflex presents but a slight problem. The head is positioned so that breathing is free and unobstructed and as he recovers he becomes more and more able to take care of respiration and to deal adequately with his own tracheal and pharyngeal secretions. The unresponsive patient, depressed below reflex response, is a major problem and I wish to make a plea for early and frequent use of tracheotomy as a means of assuring a good air exchange and ready access to the trachea and bronchi for aspiration of mucous secretions. A great many patients can be saved from death due to atelectasis and pneumonic consolidation by this procedure. In regard to this problem, if anesthesia is required to debride a wound, elevate a fracture, or for trephine exploration, intratracheal technique should be employed to insure adequate air exchange and allow the proper aspiration of tracheal secretions during the procedure. Oxygen therapy should be employed in all patients in deep coma. It has been shown experimentally that there is a direct reflex relationship between head injury and acute pulmonary edema. If this should develop the process can be dramatically reversed by endotracheal positive pressure, helium and oxygen administration for brief periods of five to ten minutes at approximately thirty-minute intervals or more frequently if required. None of these newer procedures should lead us to forget that the patient should be turned frequently at intervals of not less than thirty minutes as an important prophylaxis against hypostatic congestion of the lungs as well as a preventative against decubitus ulceration.

The second problem requiring urgent consideration is that of shock. These cases can roughly divide into two types. The first is that presenting what is commonly called "surgical shock." It is most usually seen with mild head injuries, head injuries associated with other severe injuries, particularly fractures of the long bones, and head injuries associated with extensive external hemorrhage. These cases must be treated with the usual measures, using blood and plasma transfusions as indicated, but omitting the use of morphia or any other drugs which might be classified as central depressants. This includes demerol and the other synthetic opium substitutes. Luminal, said to diminish oxygen consumption, and paraldehyde, bromides and chloral constitute the only safe drugs, and even these must not be used in depressing quantities in the presence of head injury. The second and more serious type of shock is that which is believed to be due to direct disturbance of the central vasoregularity mechanisms located in the hypothalamus. These patients demonstrate cold, damp, bluish colored extremities with marked peripheral vascular collapse, thermal instability, air hunger, and many develop symptoms of midbrain damage, such as decerebrate rigidity. This may frequently develop as a delayed manifestation and, if not recognized, certainly leads to rapid death. It is believed that hypothalamic dysfunction causes the majority of these shock-like manifestations through secondary adrenal cortical insufficiency. The condition, easily recognized, often responds satisfactorily to the administration of aqueous adrenal cortical extract, 10 to 20 cc. intravenously or intramuscularly every six hours, or more frequently if indicated. Sometimes massive doses of the adrenal cortical extract must be administered before an adequate response is observed. Recently I have had experience, on several occasions, with the dramatic effects of this therapy on patients who were generally considered to be hopelessly moribund. Vasopresser substances, such as methedrine, intramuscularly or in an intravenous drip, are useful in maintaining an adequate blood pressure level. Complicating these severe shock states, renal shut-down is observed. If the patient survives and blood pressure returns to normal levels the renal function also returns. In the absence of adequate renal output care must be exercised not to overload the patient with fluids or saline electrolytes. It is most important that an accurate record of fluid output be maintained in every case of major head injury, and in the unconscious patient a Foley catheter should be used in preference to repeated catheterization or constant overflow incontinence.

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[*] Read before the Section on Surgery at the eighty-fourth annual session of the Mississippi State Medical Association, Jackson, Miss., May, 1952.

Having dealt with the problem of maintaining an adequate airway and combatting shock, the next consideration should be the maintenance of fluid and electrolyte requirements. Dehydration therapy, which has been strongly advocated in the past, has been abandoned as unphysiological and dangerous. Fluids should be administered in the form of five to ten per cent glucose in distilled water up to 3000 cc. daily, which is the average adult requirement. After five days, tube feeding should be instituted for the patient who is still incapable of eating in order to maintain adequate nutritional requirements. Salt solutions should not be used during the first two days and after that time the maximum safe amount to administer to the patient is 500 cc. of normal saline daily. It has been shown that salt in excess is definitely dangerous, because it leads to tissue edema and cerebral swelling. In the elderly or cardiac patient pulmonary edema or cardiac decompensation may result from even small amounts of excess salt.

Many of the advances which have been made in the management of head injuries in the past few years have been the result of the many chemotherapeutic and antibiotic agents which have been made available to us. Unfortunately, the use of these agents has tended to get somewhat out of hand. It is my routine policy to use penicillin in any comatose patient as a prophylactic against pneumonia and urinary tract infections. Where dealing with any compound wounds, and this includes fractures into the nasal passages or into the accessory nasal sinuses and fractures compounded into the mastoid and external ear, it has been a policy to administer sulfadiazine in addition to penicillin, as it has been demonstrated that the sulfonamides pass the cerebrospinal fluid barrier in greater concentration than penicillin or the other antibiotics. Occasionally penicillin is administered intrathecally when evidence of infection is present, but this is not without risk and not more than 10,000 units intraspinally should be used at any one time, diluted in at least 10 cc. of saline or spinal fluid before injection. I have found that the combination of penicillin and sulfadiazine has been adequate to cover the problems of infection that arise in ordinary situations and prefer to leave the other drugs in reserve for specific therapeutic requirements involving organisms which are particularly sensitive to them. Another consideration is that both penicillin and sulfadiazine can be given to the unconscious patient without difficulty.

It should be mentioned also that among the recent advances developed from the last war, it has been well established that patients with acute head injuries, except for the completely moribund, travel well and can be transported to properly equipped hospitals where the facilities for adequate treatment are available without undue risk, if adequate air exchange is maintained by positioning the patient's head and preventing aspiration of vomitus and naso-pharyngeal secretion. This is accomplished by simply transporting the patient face down with the head moderately extended. This also prevents the tongue and palate from falling backward and obstructing the airway. I would like to urge you to speak to your local funeral directors and ambulance attendants concerning the danger of patients drowning in their own vomitus between sites of accidents and the hospital emergency room.

Early ambulation has proved to be exceedingly valuable in the rehabilitation of those recovering from the mild or moderately severe head injuries. While outside the scope of this paper, the well-established routine measures in the care of all head injuries are still essential to their treatment. These include frequent observation of the blood pressure, pulse, respiration, temperature, size of the pupils, voluntary motion, reflexes and, particularly, the level of consciousness of the patient.

The second and no less important phase in the treatment of head injuries concerns the patient who has passed through the acute stage of the injury but who is not progressing as well as might be expected. It is in these cases that there is now a trend to abandon continued conservatism and to employ freely ventriculography and exploratory burr holes. Those cases which show persistent abnormalities such as headaches, confused states, drowsiness, convulsions, or persistent focal neurological signs should be especially reviewed with an idea of employing these diagnostic and therapeutic procedures. Frequently, small clots or collections of fluid are all that are prompt acceleration of the recovery of the patient. It is my impression that the early removal of these small clots or fluid collections will relieve many of the chronic sequelae of head injuries. It is becoming more and more apparent that many head injuries that occur in accidents of the acceleration or deceleration type are associated with cortical contusion and laceration, and with intracortical clot formation, and it is in these cases that we are most likely to see convulsions. Therefore, any case presenting convulsions, particularly of a focal type, should be evaluated with a view to exploration. Such cases respond dramatically to removal of macerated cortex and particularly to evacuation of intracortical clot formations. It is in the operative treatment of these cases that gelfoam has been of value in the control of cortical hemorrhage. Generalized convulsive states are prone to occur particularly in children and are sometimes seen in adults, and when there is no reason to suspect that immediate surgical intervention is required, the convulsions may be controlled by adequate use of intramuscular sodium luminal in two-grain doses at proper intervals. Status epilepticus may require intravenous sodium pentothal or inhalation ether anesthesia to arrest the process. When convulsions persist even without focal indications it is mandatory that an air study be done since intracortical clots in some locations do not give focal signs. Electroencephalography can be of great value in locating the site of a small intracortical clot or an area of cortical maceration which has not been revealed by other diagnostic studies. In concluding this phase of treatment it is important to repeat that any patient demonstrating cortical damage should be maintained on proper doses of anticonvulsant medication for a prolonged period of time, not less than six months and preferably for one to two years. In the absence of major convulsions these prophylactic dosages need not exceed three one-half grain tablets of phenobarbital each day.

The third and final phase in the management of these cases concerns their long-term care, particularly in relation to the evaluation of their persistent and often peculiar symptoms. The proper appreciation of these patients' problems and the guidance we can give them in this respect is as much a part of their treatment as the handling of the acute phase of the head injury. It is common for their complaints to be labelled as "post-concussion neuroses" which leads to an unsympathetic and misdirected handling of the real problem. I have already mentioned the frequent occurrence of cortical contusion and damage, and we are frequently impressed with this occurrence when making exploratory burr holes. The lesions have been beautifully demonstrated by Pudenz and his associates in lucite skull preparations in experimental animals. Cortical contusion is particularly common in the frontal and temporal lobes adjacent to the sphenoidal ridge, and it seems reasonable to believe that these changes must leave behind them gliosis and cortical scarring in the so-called "silent areas", which are now recognized as being of importance in regard to personality changes and other peculiar psychic phenomena. If a careful analysis of the complaints given by many of these patients is made in relation to our present knowledge of the mechanism of cortical injury and our increasing knowledge of temporal and frontal lobe function, it becomes apparent at once that many "post-concussional neuroses" have a direct organic basis which is often irreversible. Frequent complaints which are readily explained on this basis are: loss of ambition, blunting of drive and enthusiasm, which are frontal lobe symptoms; disturbance of speech and various peculiar aphasias from damage to the speech area, olfactory disturbances with peculiar smell sensations and dream disturbances from damage to the temporal lobes; and occasional visual manifestations either in the form of light scotomata or frank field defects from temporal and occipital lobe damage. Episodic periods of personality change, irritability and nervousness which we classify as psychomotor disturbances are now known to occur with alteration of temporal lobe physiology. The increasing use of electroencephalography is helping to establish these concepts. Many of these cases can be benefited by the proper and adequate administration of anticonvulsant medication as their manifestations are often, in fact, convulsive equivalents. Many of these manifestations are often sufficiently severe to cause permanent alteration in the personality of the patient and in his adaptation to his environment. We have all recognized the cases which have legitimately required institutional care but have tended to ignore the evaluation of patients who are definitely impaired by less striking personality alterations.

In conclusion there is no doubt that the more modern appreciation of the general physiological deficits which accompany the acute head injury has made it possible for us to salvage many cases which would otherwise succumb to the effects of their trauma. We are also developing a more intelligent concept of the need to search for and correct the minimal surgical lesions which are never fatal but may be the cause of much chronic disability. Finally, our better understanding of cerebral function and the mechanics of head trauma is leading to a more intelligent understanding and evaluation of the late sequelae of head injury, and we hope, will lead to a better appreciation of the real problem of rehabilitation of those patients that have been so long misunderstood under a diagnosis of "post-concussion neurosis."

Cancer Research

(Guest Editorial)
A. STREET, M.D.
Vicksburg, Miss.

Medical research, both laboratory and clinical, including cancer research, certainly deserves all the support we have to offer and vastly more than is being provided. Observations presented here are intended to promote and encourage scientific investigation and also to discourage release from medical sources of information implying the ability of any newly equipped center to accomplish results not yet obtainable.

Research studies in pathology, chemistry, physics, and other lines have over a period of many years progressively developed a sound basis for diagnosis and management of malignant disease, without revealing the cause of cancer and without producing any cure for patients with advanced widespread disease. Many patients have and are being cured of cancer; but they are the ones treated at a stage sufficiently early to permit complete destruction or removal of all cancerous tissue.

The administration of cytotoxins such as nitrogen mustard and triethylene-melamine and also the folic acid antagonists have yielded some interesting temporary regressions and palliation of malignant growth, thus providing a clue for further study, and also partial relief to some patients. The same is true of hormone therapy, the most striking example of which is the frequent regression of both primary and metastatic lesions by estrogen therapy of prostatic cancer.

With the advent of the atomic era, we have experienced a wave of tremendous enthusiasm. Much hope for improvement in cancer therapy centers around the ability to induce radio activity in various therapeutic agents, producing isotopes which can be traced in the tissues. Because of the affinity of some tissues for certain specific elements, it is possible to deposit radioactive material in a desired location by way of the blood stream. One example is the depositing of radioactive iodine in metastatic lesions of cancer of the thyroid. This can be of value both in diagnosis and treatment. Another is the administration of radioactive phosphorus to patients having leukemia or polycythemia vera. Such epochal advances justify enthusiasm among research workers, but it is important to remember that thus far, nothing developed from the atomic energy program or supervoltage x-ray machines has changed the prospect for cure of hopelessly advanced cancer or modified the outlook for patients with acute leukemia. If this is true, it would seem to be our duty to so inform the public. By clearly presenting the facts, we can help avoid the discomfort and waste involved when, as so often happens, patients known to have widespread irremovable cancer travel from one clinic to another seeking a cure by some modern magic method which does not exist at present.

Cancer is often (not always) curable if properly treated at a stage when apparently all cancerous tissue can be removed or destroyed. Modern methods have extended the borders of operability and diminished the risk of extensive radical surgical procedures. However, while we can help the patient with inoperable malignancy by palliative measures aimed at increasing his comfort and avoiding suffering, cure of such advanced stage of the disease is not now available and remains a hope for the future.

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The Picture Is Changing

(Guest Editorial)
FELIX J. UNDERWOOD, M.D.
Jackson, Miss.

Recent news that the contract for Mississippi's modern four-year medical school and teaching hospital has been let is very heartening to all who understand and appreciate the urgent need for these necessary facilities.

Many years ago the legislature charged the State Board of Health with the responsibility of examining, licensing and certifying physicians as to medical ability, character and general fitness to serve the citizens of this state in the prevention and cure of disease. Progress on the medical school and hospital project is particularly encouraging to those of us at the State Board of Health who have felt very keenly the need of Mississippians for a greater number of well-trained physicians. Overworked private physicians are of course enthusiastic about this project which will provide additional medical service for the state. Probably no one, however, is more pleased with the news than those citizens of the state who have in the past been unable to secure medical care because of the scarcity of physicians in their particular communities.

The need for additional well-trained physicians and for more hospital beds has been recognized for a number of years. In a bulletin issued by the State Board of Health in 1944 and entitled "The Mississippi Doctor Shortage and What to Do About It," the statement was made: "Doctors can be encouraged to practice medicine in Mississippi if we improve our hospital and clinic facilities." The establishing of a four-year medical school and teaching hospital is a significant and sizeable step forward in the direction of providing the people of our state with adequate medical and hospital care. There is still need for more progress in this direction.

In the previously mentioned bulletin, we discussed the necessity for Mississippi to expand and improve hospital facilities. We advocated:

1. Small rural medical centers throughout the state.
2. Community and county hospital construction convenient to the people, under local direction and joint state and local financial support.
3. Large regional hospitals to furnish surgery, diagnosis, and treatment for the most difficult cases and to supply medical student, resident, intern, and nurse training.
4. Financial aid to Mississippi boys and girls to encourage and enable them to enter upon the study of medicine and provision in the law that after they finish medical school and hospital training they practice in Mississippi for several years.

When this was written more than eight years ago, Mississippi stood, according to records available:

48th in ratio of doctors to population
48th in ratio of hospital beds to population
48th in hospitalization days
47th in ratio of admissions to population
48th in per cent live births in hospitals
48th in births attended by physicians.

Since 1948 this picture has changed considerably for the better. We are definitely on the upgrade—because people, from the Governor to the humblest citizens, have put their shoulder to the wheel in an effort to progress with more speed in solving a problem that seemed insurmountable eight or ten years ago.

In another guest editorial, we shall present figures to show just how much progress has been made in the categories outlined above. Every year I become prouder that I am a Mississippian, and I know that you do also.

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Training for General Practice

Report prepared by Paul Williamson, M.D.,
University of Tennessee General Practice Staff

During the past twelve months there has been in operation at the University of Tennessee a general practice program designed to give medical students an introduction into the problems of general practice and to train family physicians, both at the undergraduate and the graduate level. This is a brief report of the first year of operation.

The General Practice Clinic, which is an undergraduate clinic designed for eleventh and twelfth quarter students, has now been in operation since September, 1951. The clinic is so designed that it resembles as nearly as possible a better-than-average rural general practitioner's office. Young men are allowed to do their own minor surgery, they are afforded a relatively complete lab, x-ray, BMR, EKG and numerous other diagnostic and therapeutic instruments. Patients are seen in this clinic totally without preselection so that the medical student gets a reasonable cross section of outpatient practice.

The student is not urged to watch members of the general practice staff do the work of medicine, but serves the function of the general practitioner himself. He is urged to do whatever procedure comes within the realm of his training, and he is helped to coordinate the splendid medical knowledge that he has gained in the various specialty clinics in preceeding years. He is told repeatedly that the patient is a person, not a carrier of disease and that his success in medical practice will be measured directly by his ability to consider patients as people.

The clinic is staffed entirely by general practitioners and is operated daily by medical students under the supervision of active family physicians.

We have been most pleased by the standard of practice shown by these young men. In most instances, patients have been quite adequately cared for and there has been a definite gain in understanding by the medical student. The majority of students thoroughly like the clinic and while there has been a percentage of dissent on the part of a few, most have indicated that they feel that the training is valuable. We, of course, agree, but our viewpoint is biased.

During the past few months, a home call service has been operated under the supervision of the general practice staff. Beginning early in his training the student selects a family toward whom he agrees to perform all the duties of family physician. For one calendar year he occupies a position of responsibility toward this family. It is his task to call at the home periodically, to make such medical calls as may be requested by any member of the family, to see the patients in the clinics, the emergency room, and to arrange for hospitalization if he thinks it necessary.

The most important concept in this program has been that of responsibility for the individual student. The work is not conducted in such fashion that he is allowed to watch the practice of medicine; rather, he subserves all the functions of the family doctor. A member of the general practice staff is available to him day and night to help wherever necessary, but such help is given purely on a request basis.

Perhaps the most pleasing point in the relationship between general practitioners and students has been the fact that the G. P. has shown a definite ability to come down to the student level and to attack with him a common problem. We have found many good friendships growing up between fine medical students and general practitioners of our staff.

There has been developed a nightservice clinic which runs from four o'clock in the afternoon until midnight each day and which is operated by interns and residents under the supervision of the general practice staff. Intern training in this clinic has served as a means of illustrating to these young physicians the field of competence of the general practitioner and his policy and plan of medical work. This is one of the busiest clinics in the institution.

A member of the general practice staff serves in the emergency and admitting rooms of the medical center from seven in the morning until midnight each night. During the intervening hours one member is on call. While he is requested not to interfere with the judgment of the interns and residents unless he feels it to the best interest of the patient to do so, the general physician has final decision as to the disposition of all emergency and admittance cases. We believe this to be the first instance in the United States in which a major medical center depends upon an active general practice staff for all emergency and admitting room care. It has proved most satisfactory and, in many instances, has gained a rappaport between the trainee and the general practitioner which we believe will be valuable in the future.

A postgraduate program for general practitioners consisting of individual postgraduate courses has been organized by the general practice staff. These men are brought into the medical center for varying periods of time and serve essentially as residents on the various specialty services along with spending some teaching time in the general practice clinics. The courses are scheduled on an individual basis and are designed to embrace the material that the practitioner wishes to cover. A number of postgraduate trainees have gone through these courses and almost without exception have expressed the opinion that they serve the needs of the general practitioner better than many of the lecture courses which are currently available. The general practice staff is, of course, quite proud of this.

In addition to these teaching functions, the General Practice Office of the University of Tennessee is rapidly becoming a nationwide clearing house for general practice thought. The office has been appointed national coordinator for all audio-visual education for the American Academy of General Practice and, at this time, has an extensive audio-visual program in the formative stage.

A research survey is now under way to determine ways and means of getting better help to the rural family physician. At present, we are exploring the possibility of training men which we call 'clinical associates'. As our program now stands, these men will have an approximate two-year course covering medical economics, medical business administration, x-ray, laboratory, physiotherapy, and minor clinical procedures which may be done by personnel other than the physician. It is far too early to estimate the success of this program, but we believe that some such type of personnel may be developed to be a great aid to the practicing physician.

A research program in the evaluation of certain drugs has been under way by the general practice staff during the past several months. No extremely complicated research is contemplated by the members of this staff, but we do feel constrained to point out that some of the clinical evaluations now in our files have been labelled as excellent observational work and that it has been done solely by general practitioners—men who have been labelled 'incapable of research' by many.

There are now under consideration three other developments by the general practice staff which, unfortunately, are not far enough along for publication but which we believe will serve to emphasize the family physician. We submit the fact that the general practice staff is certainly one of the most active groups in the University of Tennessee and that it has sustantiated, to a great extent, the contention that the general practitioner can make a valuable contribution to the medical school and that he has a place in medical education.

We are, of course, proud of the work accomplished by this staff, but this report is submitted not alone in pride but in proof that general practice and general practitioners are willing and able to shoulder their full load in leading the way toward new and better medical education and consequently toward a higher standard of medical practice.

The Mississippi Doctor

The journal with a vision which encourages a plan of delivering modern medicine to the masses at less cost to the individual and more profit to the practitioner. It champions the community hospital, the hub around which this service must be built.

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Editorials

TO BREAK GROUND FOR MEDICAL SCHOOL

Bids have been awarded now for our four-year medical school building and teaching hospital. Work is expected to begin before November is out. Many have longed to see this institution a reality. We acknowledge indebtedness to Governor Fielding Wright for his role in this accomplishment, and to Governor Hugh White who did valuable work first as a legislator and now as our chief executive. This school and hospital will have an unparalleled location on 144 acres of land in Jackson, our state capital. Jackson is one of the South's fastest growing cities, one of the cleanest and most delightful cities, and is now rapidly developing as a medical center. Our school will be one of the best equipped in every way. Its research laboratory for medicine and surgery is to be one of the best in the nation, comparable in all respects to other fine medical schools. Able men are steering the construction and formulating the ideals for the school. Our able dean of our two-year school, Dr. D. S. Pankratz, is devoting his very best to the school in every way. Broadly and thoroughly educated his vision for the four-year school will follow thorough and practicable planning. No doubt will be included special provision toward training men for general practice and for public health work.

We have waited long for a four-year school. We likewise waited for good roads and one day came up with the best arterial system in the nation. Our potential growth is unlimited. Our state leads in pulpwood, in ship-building, in rich Delta land, in tongue oil and, we opine, in public health and in a service institution for tubercular patients. Our state ranks high in many ways. The eyes of the nation are on Mississippi. The people are behind this school and every doctor should feel a great pride in it.

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DR. ADAMS HONORED

We offer our cordial congratulations to Dr. Milton Adams of Memphis on being elected president-elect of the American College of Plastic Surgeons. This is a distinguished honor well deserved. Dr. Adams, a native of Ripley, Mississippi, comes of a family of doctors. His great-grandfather, Dr. John Y. Murry, was outstanding in the profession, as well as in civic, church, and masonic circles. His grandfather, Dr. W. M. Murry of Dumas, his great-uncle, Dr. C. M. Murry, and his father, Dr. R. M. Adams, were able practitioners and versatile men. Milton was educated in Ripley High School, completed two years in medicine at Ole Miss, and graduated from Tulane in 1930.

His wife, the former Miss Catherine Taylor of Booneville, is the daughter of the late Dr. and Mrs. Frank Taylor. Dr. Taylor belonged in the family of Dr. Marcus Taylor who married the daughter of Dr. Crawford W. Long. Milton and Catherine are the parents of four promising children.

Native ability, personality, and consistent willingness to take pains, brought Dr. Adams deserved success in his chosen specialty.

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You will note the resolution by the Commission on Hospital Care of the late Joe Slaughter, who served as chairman of the Commission most of the time since its organization. He was a fine presiding officer, able and fair and full of sincere interest in the people of his state. The people of Mississippi make grateful acknowledgment for his service on the Commission.

SALAAM TO DR. BOSWELL

Sanatorium rounds out thirty-five years of growth and service

Mississippians, lay and professional alike, share a justifiable pride in the Mississippi State Sanatorium, chiefly due to the monumental work of one of whom this institution is in large measure his lengthened shadow — Dr. Henry Boswell. He began with the institution thirty-five years ago and his interest in it has not waned for a day nor his driving power abated. This institution has helped many people get well of tuberculosis and demonstrated that it is a curable disease in our own climate. It has forged ahead in surgical techniques which have saved life and proved a great preventive measure. It has been a great educational institution, patients having been taught how to take care of themselves after going home and how to teach others to avoid the disease. Interns have been given training in this sanatorium which has been recognized for some time by the American College of Surgeons.

The Sanatorium has now added 204 beds for the care of negro patients. This infirmary is a complete unit within itself, having x-ray, laboratory, and business offices as well as a complete thoracic surgical unit. This sets Mississippi apart and in the front ranks of our nation. This infirmary answers an imperative need, since tuberculosis has been taking many more lives of the colored than the white.

The personal attention given to the patients by Dr. Boswell is remarkable. He inspires them to be optimistic and full of courage, patient and happy.

Future plans of the institution to take care of incurables as a preventive measure and in the interest of suffering humanity prove the constantly expanding program of a serving institution.

We wish to offer our most sincere congratulations to Dr. Boswell and to his staff, to Dr. Felix Underwood and to the State Board of Heatth under whose direction the Sanatorium functions. Our salute to this institution for the work it is doing and for the place it occupies in the nation!

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We are grateful to our advertisers. All things being equal, we urge you to trade with the ones who advertise with us.

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The reports are that the recent meeting of the State Hospital Association was the best that has been held for a number of years. We would expect progress under the able leadership of Dr. A. V. Beacham. He understands the problems from more than one vantage point. Hospital staffs and doctors are coming to a better understanding of each other. The problem of one is the problem of both.

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J. T. Grantham, executive assistant of the Mississippi Baptist Hospital in Jackson was installed as president of the Mississippi State Hospital Association succeeding Dr. A. V. Beacham of Magnolia.

Other officers elected included Preston Hill of Picayune, vice president, and Earl Grimes of Brookhaven, secretary-treasurer.

Board members elected included Dr. Omar Simmons of Newton, and Lester Tuck of Starkville.

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Over at Cleveland, Mississippi we have the Baxter Laboratories which produce a variety of products that aid in treating the sick, notably intravenous liquids. Intravenous therapy is a vastly important part of medical treatment. It is mighty fine to have these safe, accepted products made in our own state.

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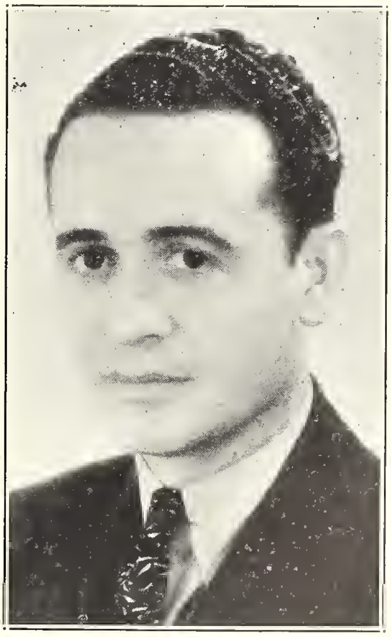
News and Comment

DR. MILTON ADAMS TO HEAD PLASTIC SURGEONS

President-Elect of American Society of Plastic and Reconstructive Surgery



DR. WM. MILTON ADAMS

The American Society of Plastic and Reconstructive Surgery, which met in October, in annual session, bestowed upon Dr. Wm. Milton Adams of Memphis the highest honor which this leading national plastic surgery society confers when it elected him president-elect.

Dr. Adams, a native Mississippian, was born forty-five years ago in Ripley. His education includes degrees from the University of Mississippi, Tulane University School of Medicine. He spent a year in association with Dr. W. H. Anderson in Booneville before going to New York for a year of surgical training at the New York Postgraduate Hospital, followed by a residency in the Ear, Nose and Throat Hospital, Brooklyn, N. Y., and another year as associate with Dr. J. Eastman Sheehan in plastic surgery. In 1934 he came to Memphis to open the Adams Clinic devoted to plastic surgery and to assume an associate professorship of surgery and head of the Plastic Surgery Department of the University of Tennessee. He has held these posts since then and later became consulting plastic surgeon at Kennedy Veterans Hospital and the U. S. Marine Hospital, and organizer and chief of the Memphis Cleft Palate Center, chief of surgery at the Methodist Hospital in 1947, chief of staff in 1948, and chief of the departments of plastic surgery at the John Gaston, Baptist, Methodist, and St. Joseph hospitals.

Dr. Adams' memberships include: Memphis and Shelby County Medical Society, Memphis Surgical Society, Tennessee Medical Association, Southern Medical Association, American Medical Association, Southeastern Surgical Congress, American Association for Surgery of Trauma, American Society of Plastic and Reconstructive Surgery, American Association of Plastic Surgeons; associate member of the British Association of Plastic Surgeons; certified fellow of International College of Surgeons; Fellow of American College of Surgeons; founder member of the American Board of Plastic Surgery; member of the Examining Board of Plastic Surgery; honorary member of the Louisiana-Mississippi Opthalmological and Otolaryngologicial Society.

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D. S. AWARDS TO THREE MID-SOUTH PHYSICIANS

Doctors Wilson, Whitacre and Pankratz honored by University of Chicago

Two faculty members of the University of Tennessee College of Medicine in Memphis received Distinguished Service Awards at a ceremony held by the University of Chicago on October 3. Dr. Harwell Wilson, professor and chief of the Division of Surgery, and Dr. Frank Whitacre, professor and chief of the Division of Obstetrics and Gynecology, were given the Distinguished Service certificates. These awards were given to certain former residents and graduates who had made "outstanding contributions in teaching, investigation, and the practice of medicine". The University of Chicago was celebrating the twenty-fifth Anniversary of its enlarged University Clinics.

Dr. Wilson received his academic degree and also the degree of doctor of medicine from Vanderbilt University. He served at the University of Chicago in the Department of Surgery from 1932 to 1939 as house officer, resident, research fellow and instructor. Dr. Wilson began practicing in Memphis in 1939, and that year joined the staff at the College of Medicine. He was in the Army Medical Corps from 1942 to 1946. He was made professor and chief of the Division of Surgery at the University of Tennessee in 1948. Dr. Wilson continues his duties in teaching and private practice.

Dr. Whitacre received his degree in medicine from the University of Iowa. He was on the University of Chicago staff in the Department of Obstetrics and Gynecology from 1930 to 1938. Later Dr. Whitacre joined the staff of The Rockefeller Foundation's Medical College, Peiping, China, as professor of obstetrics and gynecology and head of the department. He spent two years in a concentration camp in Manilla following the Japanese invasion. He was made professor and chief of the Division of Obstetrics and Gynecology at the University of Tennessee College of Medicine in 1946.

Dr. David S. Pankratz, dean and professor of anatomy, University of Mississippi College of Medicine, also received a Distinguished Service Award in this ceremony. Dr. Pankratz received his degree of doctor of medicine in 1938 from the University of Chicago. Dr. Pankratz had previously been awarded the Ph.D. degree.

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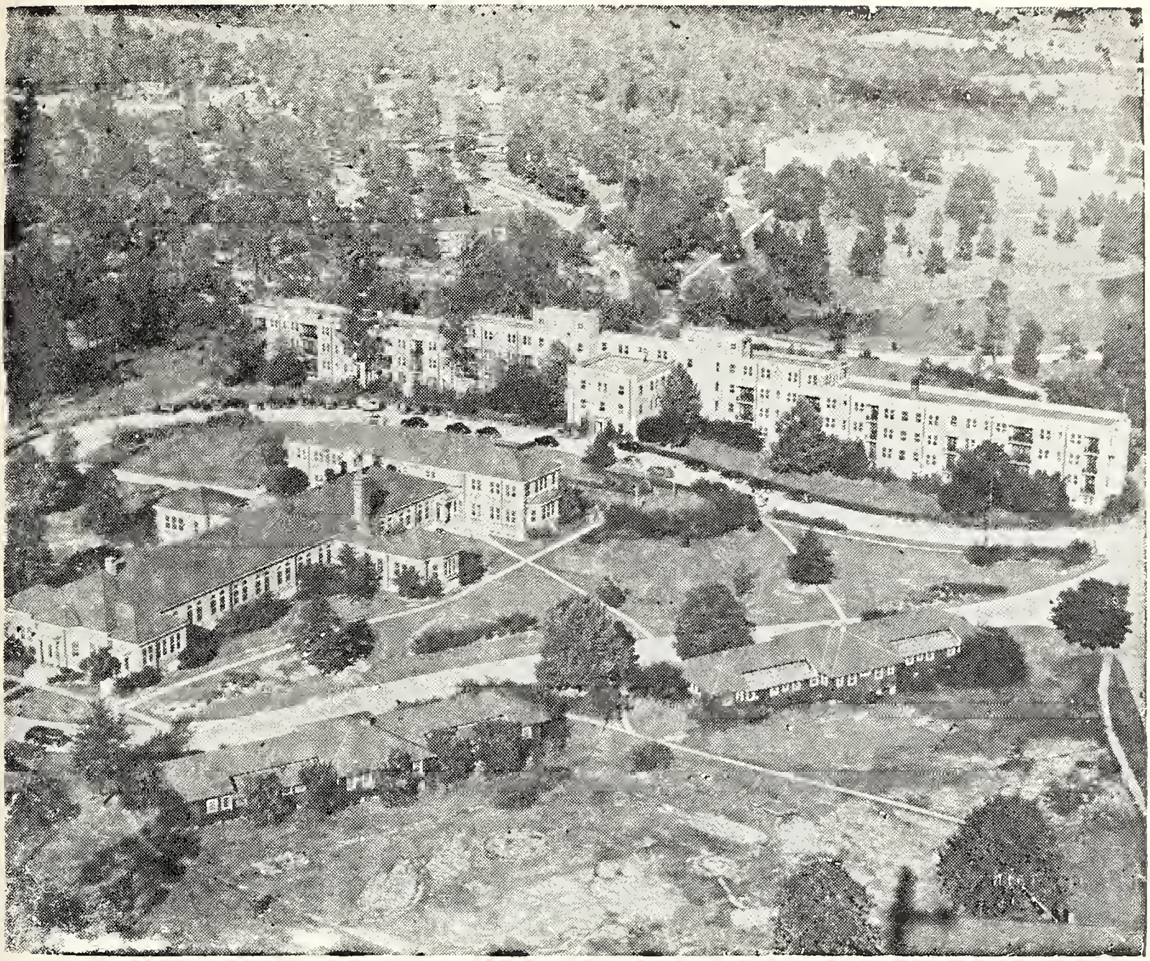
MISSISSIPPI STATE SANATORIUM CELEBRATES THIRTY-FIFTH MILESTONE

Homecoming Day and Portrait Presentation Honor Dr. Boswell

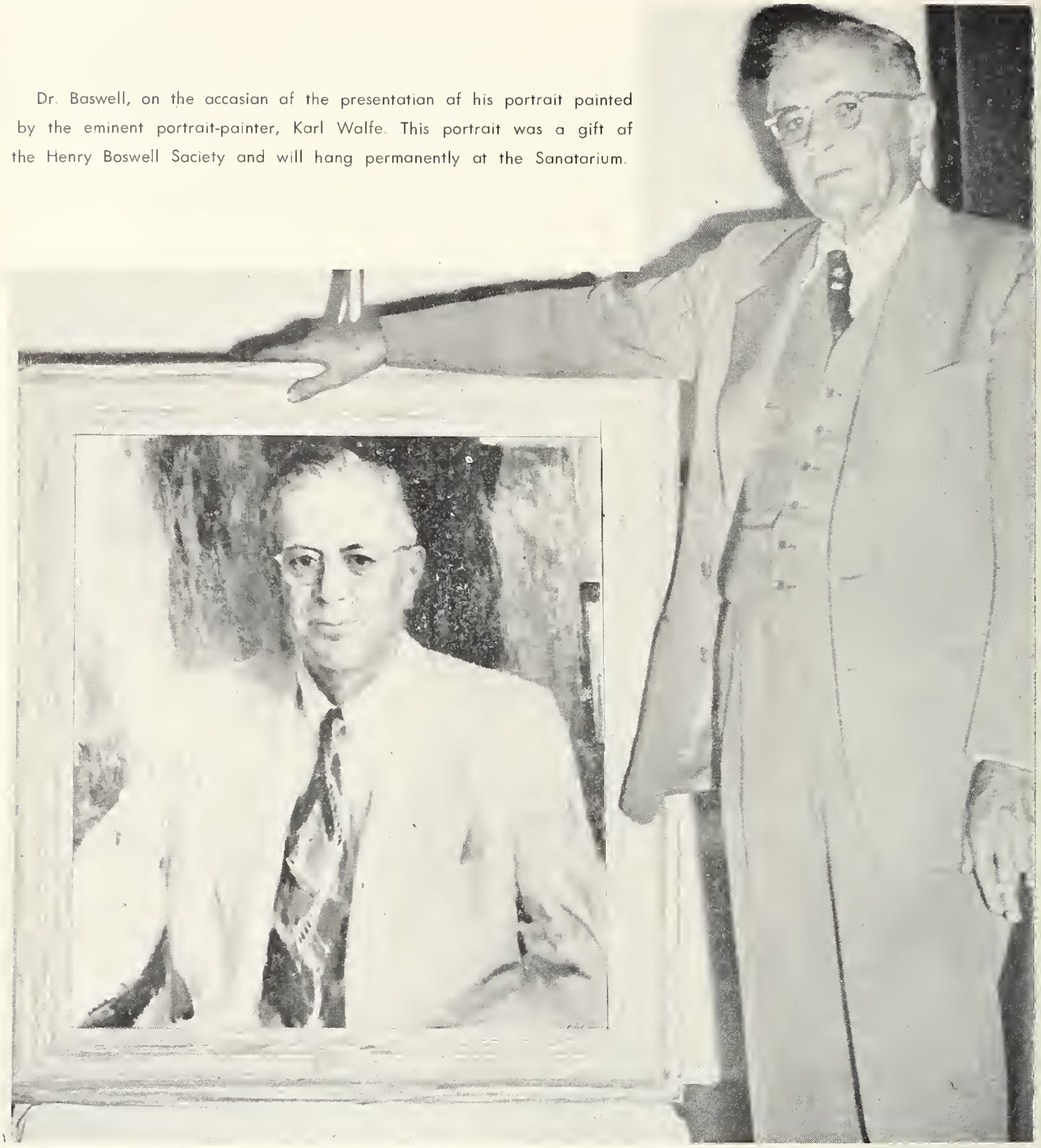
Sunday, October 5, marked a significant milestone in the progress and service of one of Mississippi's most outstanding institutions, the T. B. Sanatorium. Highlight of the homecoming was the presentation of Dr. Boswell's portrait by the Henry Boswell Society to be hung permanently at the Sanatorium. Mr. J. M. Cantrell made the presentation and Dr. R. B. Caldwell, representing the State Board of Health as its president, made the following speech of acceptance:

"Ladies and gentlemen: I rejoice to see this great honor paid to one of the best friends I ever had or ever will have. He is not only a great friend of mine, but a great friend to suffering humanity. His life has been devoted to the relief of the suffering. He has not only given aid to those coming under his direct care since he has been the head of this great institution, but he has planned for this work to be carried on for multiplied years to come. He started with this



Aerial view of the Sanatorium's concentric layout of buildings, showing main infirmary, new infirmary and residencies, power house, office building, nurses' home, auditorium, and praventorium, located in chain proximity along gently rolling wooded slopes.

Four new residences for staff physicians, and chapel for Colored Infirmary.



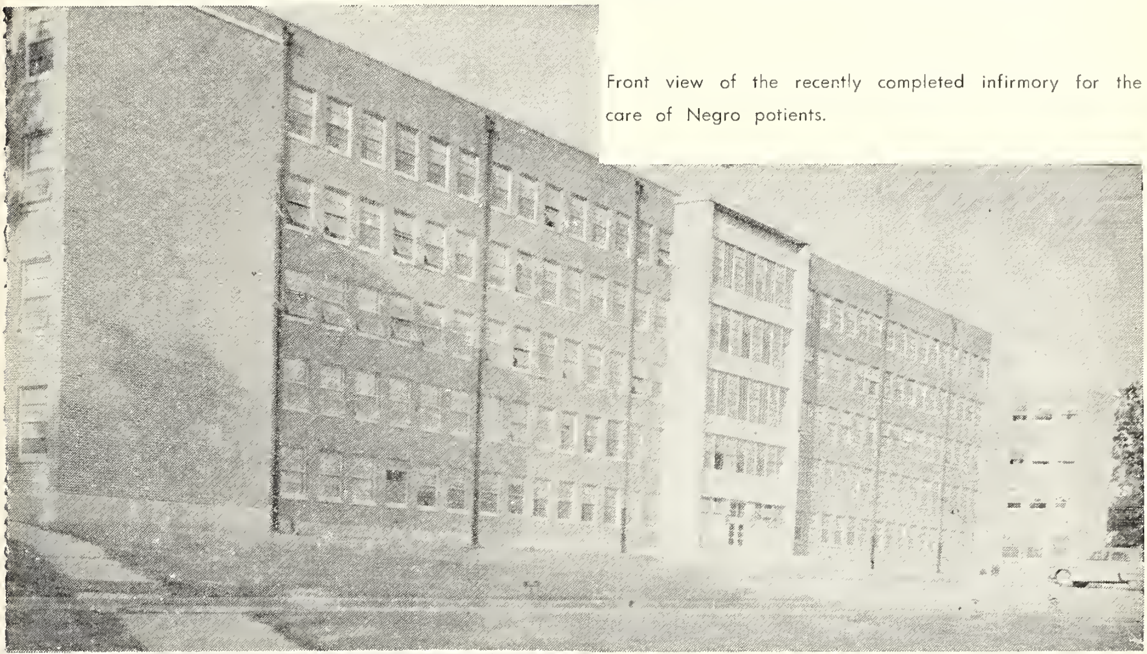
Dr. Boswell, on the occasion of the presentation of his portrait painted by the eminent portrait-painter, Karl Wolfe. This portrait was a gift of the Henry Boswell Society and will hang permanently at the Sanatarium.

institution in its infancy and has carried it up to one of the very best in the nation for the treatment of tuberculosis. We are proud of him, proud of this great institution, and gratefully acknowledge the service he has rendered. His was a great vision. And only by years of hard work and practical application has he made this vision a reality. While others slept Dr. Boswell toiled on. He never slowed down.

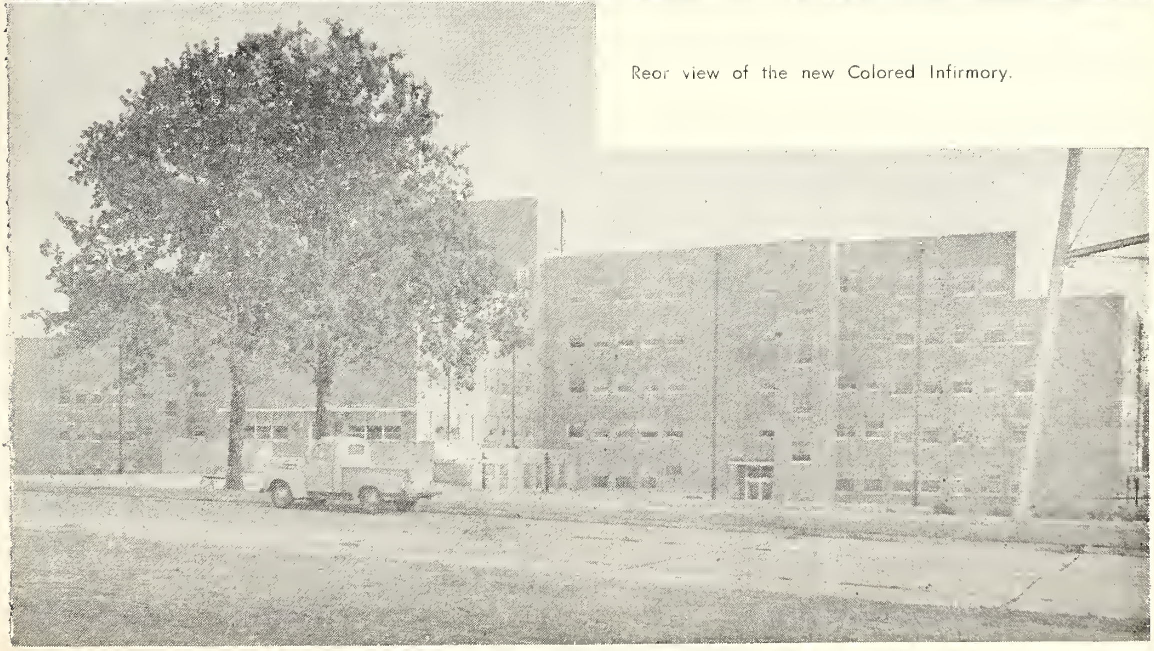
"I have known Dr. Boswell too many years to mention. It has been a pleasure to work with him and profitable to take his counsel and follow his example. It was a great pleasure to me to have a hand in bestowing upon him the greatest honor in the gift of the medical profession of our state, the presidency of our State Medical Association. It has been a pleasure to work with him since I have been a member of the State Board of Health, to receive his reports and to know just what a fine work he is doing. I am sure few people know what fine progress he and his staff have made from year to year. Thirty-five years ago when he came to this institution Mississippi was having about four thousand deaths per year from tuberculosis. Last year, we had 496. Dr. Boswell took the lead in this great work and carried the fight against tuberculosis to every doctor in the state and even to every person. He is a great teacher. He informed the people about this disease through clubs and schools and churches. He is known and loved in every nook and corner of this state. He has carried this cause before the members of our legislature over and over and in a most effective way. He showed them the convincing results and they have unfailingly backed him. Each year he works harder for this institution and loves it more devotedly. He has never sought honor nor courted fame, nor does he care for front page publicity, nor whistle stop fanfare.

"No one has ever made a success who did not love his friends and his co-workers and was happy in serving humanity. His devotion to friends and his love for his patients have caused him to be loved and respected by every one. The great men are not all dead. One lives here before us today.

"I sometimes think that Dr. Boswell is just a little closer to me than to any other member of our profession, but the truth is that everyone feels that way about him. His personality is magnetic, his convictions strong and his determination overpowering. These traits have caused him to be loved and admired. He has given us a wonderful example of what a man can do when he puts



Front view of the recently completed infirmary for the care of Negro patients.



Rear view of the new Colored Infirmary.

his life, heart, and soul to a task and never gives up. He and his staff have brought the institution to a signally high standard. It is the very best to be found in America.

"Dr. Boswell is not only recognized in Mississippi, but throughout our nation. He has been recognized in the national field of tuberculosis conquerors. Truly this portrait deserves to be in the national Hall of Fame as much as here. And I would suggest this wording: 'Henry Boswell of Mississippi, one of the greatest benefactors of mankind'.

"I am happy to have the honor to receive this portrait and to place it in the hall of this institution where everyone who passes this way can see it. We hope that Dr. Boswell can pass by and see himself for the next forty years and as he does he may rejoice that he has given his best for suffering humanity. Surely he has not lived in vain, not our beloved Henry Boswell. We now accept the portrait of one of the greatest men and greatest doctors in America."

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DR. HENRY BOSWELL'S PORTRAIT PRESENTED TO THE SANATORIUM

Once again Dr. Henry Boswell, superintendent of the Mississippi State Sanatorium for the past 35 years, has received the homage of grateful Mississippians who honor and love him for his great work in the tuberculosis program of the state and nation. At the annual "Homecoming Day" ceremonies on October 5 at the Sanatorium, about 500 visitors were on hand to witness the presentation of Dr. Boswell's portrait, a gift from a large group of friends who had joined together to commission Mr. Karl Wolfe, outstanding Mississippi artist, to paint the portrait. The portrait is now permanently placed in the lobby of the main hospital at Sanatorium.

Mr. J. M. Cantrell, of Clarksdale, presented the portrait, and Dr. R. B. Caldwell, of Baldwyn, president of the board of trustees of the Sanatorium, accepted. Mr. Cantrell said that the portrait was a love offering from many whom Dr. Boswell had helped and who appreciated his work and life. Dr. Caldwell spoke as a life-long friend and professional associate of Dr. Boswell, telling his listeners that Dr. Boswell was endowed with a gift from God in being able to reach out to and be reached by the lowliest and the highest, and that he had used this gift for the benefit of his fellow man, thus enhancing his genuine abilities as a doctor and administrator. He reviewed Dr. Boswell's contribution both nationally anl locally in the tuberculosis program and proudly claimed him as Mississippi's own.

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HISTORY ON DR. BOSWELL

(Excerpts from *The Sanatorium Pulse*)

Back in 1917, Dr. Boswell officiated at the birth of Sanatorium—two wooden shacks and a clay hill on which he did a little bird hunting. Today, upon this clay hill stands our main building and surrounding it are the service building, the country wards, the Colored Infirmary, the Preventorium, the chapel, the nurses' homes, the residences — the Sanatorium we all know and love so well.

Dr. Henry Boswell was born at Hinton in Choctaw County, Alabama, on March 26, 1884. He attended public schools of that community and obtained his medical degree from the University of Nashville. He interned at Nashville General Hospital and later served as house surgeon at a Mobile, Alabama, hospital.

His father having moved to Mississippi, Dr. Boswell came to Laurel in 1909 with the intention of practicing there, but became associated with the State Health Department instead. While serving with this Department he found he had tuberculosis. Leaving his family behind, he went to a sanatorium in El Paso, Texas, where he remained eight months before returning to Mississippi to continue his rest cure at home. It was while taking the cure that he conceived the idea of erecting a tuberculosis hospital in Mississippi—for at that time no provisions existed for tuberculous Mississippians. In 1917, due to his untiring efforts, the Mississippi State Sanatorium was established. He has not rested since. Dr. Boswell strived for a modern, up-to-date hospital dedicated to the saving of lives that would have been lost as a result of the ravages of tuberculosis. His dream has been realized; the plant now boasts two wonderful hospitals — one for white, one for colored — both using the most modern equipment and employing the latest methods of treatment and surgery.

Many words have been written about Dr. Boswell. He has been lauded for his many accomplishments in the field of tuberculosis; honor upon honor has been conferred upon him, and he has graciously accepted them all. It fills our heart with pride to know that our own Dr. Boswell is listed in "Who's Who" in "Who's Who In Medicine," and is past president of the National Tuberculosis Association, past president of the Mississippi State Medical Association, to name only a few of his attainments. But the greatest honor due him is in the field of human relations. Dr. Boswell feels that having TB is no tragedy—you've got it; make the most of it—and he endeavors to pass this logic on to his patients. He is straight-forward, earnest, and genuinely interested in YOU, as an individual. His medical skill no doubt has saved many lives but his gift of being able to reach into the lives of others and point the way upward has given direction and hope to countless numbers.

His goals for the future include a building for the white advanced so-called incurable case whereby they can be isolated from their families and prevent the further spread of TB. As he realizes one goal, he sets a new mark and works toward the accomplishment of it. This is HIS Sanatorium. There is no legal deed in his name, true, but by virtue of love and devotion to an ultimate goal that in all probability would have been years later in realization, he has made the San solely his.

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HISTORY ON SANATORIUM

(Excerpts from *The Sanatorium Pulse*)

The State Sanatorium was created by act of the legislature, January session 1916, placed under the management of the State Board of Health, which proceeded at once to secure a site for it and finally located it in Simpson County on the Gulf and Ship Island Railroad, three miles north of Magee, Mississippi. Dr. Walter H. Rowan was elected the first superintendent and began the plans for building it, but unfortunately his health failed him and his untimely death prevented him from proceeding with completion of any of the units or admission of any patients. Dr. Henry Boswell was elected to succeed him, took over in 1919, and has remained the superintendent since. And, as you know, the institution is now a very creditable one—not only to our state but to the nation.

The first patients were admitted to the institution on February 4, 1918. At that time the Sanatorium consisted of two small buildings accommodating twenty (20) patients each. There were no lights, water, or sewerage disposal. None of the buildings were screened. There was no laboratory or x-ray equipment. The superintendent was the only physician on the grounds and with the help of a negro, Julius Buchanan, who is now dead, these two did all the work for the 20 patients, except for nursing care. It is hoped that the white race of people in Mississippi will always appreciate the wonderful service rendered by this negro.

In 1918 the legislature gave a small appropriation to establish an office building, which is now a part of the main hospital building. Laboratory and x-ray equipment were installed and the superintendent had to do both of these jobs.

In 1920 the legislature made an appropriation of $1,600,000 to build the present institution, including the power house, laundry, nurses home, service building, and main infirmary. This, at that time, was the largest appropriation ever made by any state in the union for this purpose. Today that $1,600,000 is worth on the market value above $10,000,000.

In 1920 Jones County erected a small cottage here as the first donation by any county. This was followed later by Lincoln County, Hinds County, Tallahatchie and Forrest Counties, all giving additional space. In addition to these the Masonic Order of Mississippi erected a twenty-bed building for their membership.

Out of the original appropriation a forty-bed building for Negroes was also erected. These buildings have operated to full capacity since their completion and we have accomplished a great deal in the control of tuberculosis in the State of Mississippi, returning thousands of people to healthy, productive citizenship.

In 1928 the legislature appropriated money for the auditorium and the Preventorium. These are giving a remarkable and wonderful service. The auditorium is for entertainment as well as religious services. The Preventorium is for the care of undernourished children and we attempt to build them up to where they will never break down with tuberculosis in the dangerous age, which is between 12 and 25.

In 1946 the legislature again made an appropriation of $1,250,000 for the erection of additional building for the white people and a Negro building as the law specified. Prices in the meantime went so high that it was found impossible to do both of these jobs. Consequently at the session in 1948, this was renewed and it was specified that the entire appropriation could be used for the Negroes. This, together with the money matched from the federal government under the Hill-Burton Act, gave an expenditure of $1,800,000 for the building of a modern hospital to care for our negro citizenship. This building has been completed and is now being occupied as speedily as possible.

The results of all this work have been shown in the drop in total deaths annually from more than 3,000 estimated in 1916 to less than 500 at the present time.

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DR. AND MRS. W. L. LITTLE CELEBRATE SIXTIETH WEDDING ANNIVERSARY

(Photo next month)

"A heap-o'-livin'" has gone into the home and lives of one of Wesson's most beloved couples—Dr. and Mrs. W. L. Little—who celebrated their sixtieth wedding anniversary on Sunday afternoon, September 25, 1952, surrounded by all members of their family, namely:

Mr. and Mrs. L. P. Norman (Virgie Mae) and son Hal of New Orleans; Mr. and Mrs. Curtis Youngblood (Edith) of Wesson and son Billy, wife and son of Osyka; Dr. and Mrs. Ashford Little and son Robert of Oxford; Mr. and Mrs. Paul Little with their daughter Katherine of Wesson. Two grandsons were absent: Hunter Little and Ben Youngblood.

Following in their parents' footsteps, this outstanding family group is making a valuable contribution to their home communities after the example set—that life does not consist in length only, but of breadth and depth.

For sixty years, the lives of Dr. and Mrs. Little have been enviable examples of service, practice, and principle. One of their greatest joys has been the having of friends in their home. No church, civic, or community gathering is complete without their presence. So it was with reverence that friends called this beautiful Sunday afternoon to extend congratulations and wish them continued health and happiness.

The reception rooms throughout the house resembled an autumn garden so many were the lovely flowers sent by friends.

Mr. Paul Little and Rev. Billy Youngblood greeted guests upon arrival. Mrs. Edith Youngblood invited them into the living room to be received by Dr. and Mrs. Little. Mrs. Paul Little and Mrs. Virgie May Norman informally assisted in receiving. Miss Mary Thompson presided at the register, and in the same room Dr. Ashford Little welcomed long-time friends.

The dining room was decorated in bridal green and white. The table, covered by an embroidered linen cloth, was centered by a beautiful tiered wedding cake. Another cake in the form of two wedding bells, with letters "Laura" and "Lee" in silver, was placed near the gleaming silver service, where Mrs. Ashford Little served coffee. At the other end of the table Catherine Little served punch, mints, and small cakes embossed by the initial L.

Assisting in the dining room were Mrs. John Armstrong, Mrs. Frank Oswalt, Mrs. Ken Patterson, and Mrs. Billy Youngblood.

Mrs. Little's dress for the occasion was a rich brocaded silk in pastel shades, worn with a stole of orchid and blue with orchid corsage.

Dr. Little, a former state president of Mississippi Medical Association and a member of the Fifty-Year Club, was honored this summer by the ICRR with a gold pass for fifty years of service as the railroad's physician for this area.

"No gifts", read the invitation; but the family had a television set installed that many happy evenings with friends may be anticipated.

Out-of-town visitors, other than those mentioned, included: a brother and sister of Dr. Little, Mr. Luther Little of Rockport and Mrs. E. R. Owens of Jackson, known as "Miss Cora".

Mr. Baxton Hamilton, Baton Rouge, La.; Mrs. J. W. Rogers, Mrs. E. R. Owens, Dr. and Mrs. D. W. Jones, Mrs. Sims Kelly and Claire, all of Jackson; Miss Mary Hobbs, Dr. and Mrs. H. R. Fairfax, Dr. and Mrs. R. D. Ripley, Mr. and Mrs. V. D. Youngblood, Dr. and Mrs. W. H. Frizell, Brookhaven; Mr. and Mrs. John Armstrong, Johnny, Jimmy, and Betty Armstrong, Judge and Mrs. J. F. Guyes, Mr. and Mrs. O. D. Starnes, Mr. and Mrs. J. Frank Decell, Mr. and Mrs. E. E. Randle, Judith Randle, Dr. and Mrs. R. B. Hazlehurst; Mrs. E. B. Ragsdale, Clarksdale.

(From the *Wesson Enterprise*)

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SMA President to Preside at Meeting in Miami, Nov. 9 — 13

DR. ROBERT J. WILKINSON
Huntington, West Va.

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DELTA MEDICAL SOCIETY

About seventy physicians were present for the fifty-eighth semiannual meeting of the Delta Medical Society which was held in Cleveland on October 8. At the scientific session papers were given by Drs. J. A. Westerfield, Merigold; George Archer, Greenville; John Barr, Belzoni; John F. Lucas, Greenwood; Tom Robinson, Parchman and Eugene Ellison, Texarkana, Texas, the guest essayist.

The secretary, Dr. Howard A. Nelson, Greenwood, conducted the memorial service.

Guests included Dr. Lamar Arrington, state association president, Meridian; Dr. M. Q. Ewing, state president-elect, Amory; Dr. H. H. McClanahan, Jr., third district councilor, Columbus; and Rowland B. Kennedy, state association executive secretary, Jackson.

Members of the auxiliary enjoyed an afternoon program at Michael's Cafe.

Dr. L. B. Otken, Greenwood, was installed as society president, and Dr. Jack C. Russell, Cleveland, was named president-elect. Dr. Nelson succeeded himself as secretary.

An evening social session and banquet was held at the Delta Club for members and guests and their ladies.

The next semiannual meeting is scheduled to be held at Belzoni.

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HEALTH SERVICES ADVISORY COMMITTEE

The Federal Civil Defense Administration has requested the American Medical Association, the American Hospital Association, the American Veterinary Association, the American Dental Association, the American Pharmaceutical Association, the American Nurses Association, and the Association of State and Territorial Health Officers to suggest appropriate members of their respective organizations to form a Health Services Advisory Committee in each of its nine regions.

While the formation of the Committee is not yet complete, the Atlanta office of the Federal Civil Defense Administration, the headquarters of Region III, which comprises the states of Alabama, Georgia, Florida, Mississippi, South Carolina, and Tennessee, has announced the names of those who have indicated they would serve.

They are:

Representing the American Medical Association: E. M. Dunstan, M.D., Atlanta, Georgia, Charles Downman, M.D., Atlanta, Georgia.

Representing the American Hospital Association: Charles W. Flynn, Jackson, Mississippi, Edwin B. Peel, Atlanta, Georgia.

Representing the American Veterinary Medical Association: D. A. Sanders, D.V.M., Gainsville, Florida.

Representing the American Dental Association: H. Harvey Payne, D.D.S., Atlanta, Georgia.

Representing the American Nurses Association: Mrs. Mildred B. Pryse, R.N., Atlanta, Georgia.

Representing the Association of State and Territorial Health Officers: R. H. Hutcheson, M.D., Nashville, Tennessee, T. F. Sellers, M.D., Atlanta, Georgia.

This committee will advise and assist, within its region, in the implementation of policies and instructions formed by the Federal Civil Defense Administration working with the national organizations and federal agencies.

It is not intended to replace, but would complement and strengthen the work of any other groups of state civil defense health and medical services directors.

Dr. John M. Whitney, Medical Officer for Region III, will head the committee. Organization of the committee is under way, however, the number of meetings will be held at a minimum consistent with good progress.

As the meetings will be held in Atlanta, the organizations were requested to nominate representatives in or as close to Atlanta as possible, in order to hold down time and expenses, which explains the predominance of Atlanta residents on the committee.

It should be emphasized that these members represent their respective organizations in everyone of the six states in the region.

§

VA COURSE IN PSYCHIATRY AND NEUROLOGY

The Veterans Administration is instituting a four-month intensive training course in psychiatry and neurology to fit the needs of physicians without such previous training who are assigned to duty in 22 predominantly psychiatric hospitals. Physicians who have been engaged in general practice may request this training upon applying for a position at one of these hospitals.

The course will be held at the VA Hospitals in Coatesville, Pennsylvania; Palo Alto, California; and a joint Downey-Hines, Illinois, program near Chicago, Illinois. Physicians will be employed at salaries commensurate with their training and experience (salary range: $5,500 to $11,800 per annum) and assigned to the course with travel and per diem for the four-month period.

Information and applications may be obtained from your nearest VA Hospital or Regional Office, or by writing to the Chief Medical Director, Veterans Administration Central Office, Washington 25, D. C.

§

COMMITTEE ON SCIENTIFIC PROGRAM

The ninteenth annual meeting of the American College of Chest Physicians will be held at the Hotel New Yorker, New York City, May 28-31, 1953.

Physicians who wish to present papers at the meeting should submit titles and abstracts to Dr. Arthur M. Olsen, chairman, Committee on Scientific Program, American College of Chest Physicians, Mayo Clinic, Rochester, Minnesota.

§

WANTED

Two young doctors, not over forty years of age, interested in and capable of doing research work. Good salary, home furnished, all gross equipment provided. Would come under retirement act. Apply Dr. Henry Boswell, Mississippi State Sanatorium, Sanatorium, Mississippi.

STARTLING FIGURES

"In a statement to the Special Committee of the U. S. Senate to Investigate Organized Crime in Interstate Commerce, on March 26, 1951, J. Edgar Hoover, Director of the Federal Bureau of Investigation, gave the following startling figures on crime in the United States: 'Last year, a total of 1,790,030 serious crimes were committed, or an average of one serious crime every 18 seconds. In an average day last year 301 persons were feloniously killed or assaulted; 146 robberies were perpetrated; 1,125 places were burglarized; 468 cars were stolen; and, in addition, 2,861 thefts of other types were committed. Those figures reflect that the American people, day after day, are paying a bitter toll in death, personal sorrow, and financial loss to the criminal. In 1950 every major classification of crime, except robbery, showed an increase.' This same authority declares that crime in 1950 increased 1.5 per cent over the 1949 record and that the 1949 record was an increase of 4.5 per cent over that of 1948. Also that over the last ten-year period, serious crime increased 18 per cent while the population increased 14.3 per cent. The 1950 Annual Bulletin issued by the FBI contains a Chart which shows the largest number of arrests of any one age is the 21 age group. With reference to the part youths played in the commission of crimes, the Bulletin states that 'During 1950, of the persons of all ages arrested for robbery, burglary, larceny, auto theft, embezzlement, fraud, forgery, counterfeiting, receiving stolen property and arson, 28.9 per cent were less than 21 years old.' Also, that 'approximately one-half of all crimes against property during 1950 were committed by persons under 25 years of age.'"

§

MISSISSIPPI STATE MEDICAL ASSOCIATION

EIGHTY-FIFTH ANNUAL MEETING

BILOXI - MAY 12, 13, 14, 1953

House of Delegates Meets May 11, 1953

IN MEMORIAM

J. O. SLAUGHTER

(Statement adopted by Mississippi Commission on Hospital Care in Regular Meeting on October 17, 1952)

On September 28, 1952, J. O. Slaughter passed to the reward that awaits a good man in a better world. His life was short but it counted for more in good than that of most men who are blessed with the threescore and ten years.

When this Commission met for the first time in 1946 Joe Slaughter took his place among us as one of the original members. From that day no one doubted that this work and work like it took precedence with him over even his own varied and substantial business interests.

At the beginning of our second year he was raised to the chairmanship by the unanimous and spontaneous desire of all the members. Not only the members of the Commission, but its staff and other personnel, recognized in him innate abilities of leadership and keen insight into the great purposes to be served by our program of work. All of us followed him gladly. He gave of his best to this work and to other humanitarian causes at all times and under all circumstances. Only upon his own request was he relieved of the duties of the chairmanship of our Commission, less than a year ago, when it was apparent that his health required curtailment of his activities and responsibilities.

We have seen and felt in our beloved friend, Joe Slaughter, the best in character, devotion to duty, understanding and appreciation of one's fellows and deep concern for those who most needed help and the opportunity to help themselves. Not the least of his virtues was that of a good and cheerful disposition, an optimistic outlook and the confidence that, pulling together, we could attain our goals and purposes.

We record here our sense of grief and great loss in the passing on of our beloved friend and fellow worker.

We extend to his family and loved ones our deepest sympathy in the unspeakable loss they have suffered.

MISSISSIPPI COMMISSION ON HOSPITAL CARE
Henry Boswell, M.D., Chairman
Owen Cooper, Vice-chairman
Carl W. Bloomquist, Secretary
Foster L. Fowler, Executive Secretary
Harvey Hedgepath, Attorney
Jack M. Montgomery
W. H. Anderson, M.D.
Felix J. Underwood, M.D.
W. S. Moore

§

DEATHS

DR. D. W. McDONALD

Services were conducted from the Buccatunna Baptist church on October 14 for Dr. Daniel Webster McDonald, general practitioner in Clarke and Lauderdale counties for more than half a century, who died at his home near Meridian. He was 75.

At the time of his death, Dr. McDonald was associated with the Joyce Optical Service. He still maintained some general practice. He was born and reared in Clarke County, and was graduated from the University of Tennessee Medical School at Memphis.

Dr. McDonald was a member of the East Mississippi Medical Society, the Mississippi Medical Association, the Calvary Masonic Lodge, and the Bucatunna Baptist Church.

He leaves his wife, Mrs. Mattie Belle Iry McDonald, of Meadville, Miss Bonnie McDonald of Knoxville, Tenn., and Mrs. L. E. Tate, of Browns, Ala., and Miss Ella Marie McDonald and Mrs. Don Lancaster of Meridian; six sons, Lamar McDonald, of Quitman; Irving McDonald, Percy McDonald and Marlin McDonald of Meridian; Leo McDonald, Washington, D. C., and Edd Reed McDonald, of Biloxi; a sister, Mrs. Mary Powell, and a brother, G. C. McDonald, both of Meridian.

§

DR. S. L. KNIGHT

Services were conducted from the Mendenhall Baptist Church October 16 for Dr. S. L. Knight, prominent retired physician of Mendenhall who died at the Veterans Hospital in Jackson following a long illness. Dr. Knight was 80.

Dr. Knight, father of Dr. Morris Knight and Mrs. B. T. Robinson, both of Jackson, practiced medicine for half a century and operated the Service Drug Store in Mendenhall. Born and reared in Lauderdale County, he was a graduate of the University of Tennessee and served in the Spanish-American War.

Dr. Knight was a member of the Mississippi State Medical Association and of the Central Medical Society. He was a member of the Mendenhall Baptist Church and had been active in the Men's Bible Class.

INTERPRETING MEDICAL LITERATURE

STAFF OF REVIEW
Dermatology—James G. Thompson, Jackson
Otolaryngology—Charles R. Hume
Opthalmology—Eddley Jones, Vicksburg
Obstetrics and Gynecology—J. F. Lucas, Greenwood
Orthopedics—Thomas H. Blake, Jackson
Public Health—Felix J. Underwood, Jackson
Pediatrics—Harvey F. Garrison, Jackson
Radiology and Roentgenology—Karl O. Stingily, Meridian
V. A. Pathology—H. N. Naumann, Jackson
Surgery—W. H. Parsons, Vicksburg
Urology—Temple Ainsworth, Jackson

PEDIATRICS

Relationship Between Inoculations and Poliomyelitis. J.A.M.A. 149:170, May 10, 1952.

The U. S. Public Health Service, on March 14, 1952 sponsored a meeting of 42 poliomyelitis investigators, epidemiologists, pediatricians, allergists, and health officers. The National Foundations for Infantile Paralysis participated in the conference and helped in its planning. The conference voted unanimously in favor of the following statement, which has been accepted by the Public Health Service and is being transmitted to official health agencies, to the medical profession, and to the public:

"There is no definite evidence that an increase in the number of cases of poliomyelitis has occurred as a result of injections for the prevention of diphtheria, whooping cough and possibly tetanus, when given during an epidemic of poliomyelitis, may, on rare occasions, localize the paralysis in the inoculated arm or leg. There is no satisfactory evidence that other types of injections have any effect on the localization, frequency, or severity of poliomyelitic paralysis. In the small number of persons with localization of paralysis in the inoculated limb, the injections, for the most part, were given about 7 to 21 days prior to onset, which corresponds to the usual incubation period of poliomyelitis. This has raised the question as to whether or not inoculated persons have a greater chance of contracting poliomyelitis during an epidemic.

"There is as yet no final answer to this question, but it is a fact that, even if there should be an increased chance, it is extremely small. Many thousands of poliomyelitis cases occur every year among children who have not had any injections during the preceding few months, and thousands of children have received injections for whooping cough, diphtheria, and tetanus during poliomyelitis epidemics and have not developed the disease.

"Diphtheria, tetanus, whooping cough are serious diseases which can be prevented by immunization. Unchecked, these diseases present a far greater hazard than poliomyelitis. The benefits derived from immunization against these diseases far outweigh the questionably small risk of contracting poliomyelitis. However, even this questionable risk can be avoided by carrying out these immunizations when poliomyelitis is not epidemic in the community. There appears to be no good reason for withholding these immunizations during the summer months in communities that are not having an epidemic of poliomyelitis.

"Furthermore, poliomyelitis is at all times so rare in infants under 6 months of age, and the danger from other infectious diseases, particularly whooping cough, is so great, that it is advisable to continue the immunization procedures for this age group even during a poliomyelitis epidemic. In adults also, poliomyelitis is relatively so infrequent, that when there is a need for immunizing or therapeutic injections, such injections should not be withheld.

"Certainly no parent should object and no physician should hesitate to administer a needed antibiotic, drug or other injection for treatment of disease at any time. When there is immediate danger for diphtheria, whooping cough or tetanus, the preventive inoculations should be given to all threatened age groups even during a poliomyelitis epidemic. In the final analysis, the decision as to when an immunizing or therapeutic injection shall be given to an individual patient must rest with the physician."

COMMENT: There has been a great deal of discussion in regard to the subjects indicated in this very interesting and apparently all-conclusive article. At a joint meeting of the Pediatric and Ear, Nose, and Throat Sections of the AMA last June this subject was thoroughly discussed and the conclusions were about the same as are indicated in this article.

§

Whether we have regimentation in medicine or no depends upon the medical profession more than any other factor. If every doctor should adopt a Sermon-on-the-Mount policy as a physician and as a citizen, all will most likely be well.

Woman's Auxiliary

OFFICERS

President	Mrs. Richard Clark	Hattiesburg
President-Elect	Mrs. S. L. Bailey	Kosciusko
First Vice-President	Mrs. George W. Owen	Jackson
Second Vice-President	Mrs. Leonard Pasey	Jackson
Third Vice-President	Mrs. John B. Howell, Jr.	Canton
Fourth Vice-President	Mrs. John W. Williams	Greenville
Recording Secretary	Mrs. C. C. Hightower, Jr.	Hattiesburg
Treasurer	Mrs. J. D. Simmons	Cleveland
Historian	Mrs. Harvey F. Garrison, Sr.	Jackson
Parliamentarian	Mrs. R. H. Fenstermacher	Vicksburg
Corresponding Secretary	Mrs. William Colmer	Hattiesburg

COMMITTEE CHAIRMEN

Program	Mrs. T. A. Baines	Jackson
Bulletin	Mrs. Augustus Street	Vicksburg
Doctor's Day	Mrs. H. Lowry Rush	Meridian
Nurse Recruitment	Mrs. S. B. McIlwain	Pascagoula
Budget	Mrs. Stanley A. Hill	Corinth
Research and Romance of Medicine	Mrs. I. J. Newton	Greenville
Legislation	Mrs. T. E. Wilson	Jackson
Preventarium	Mrs. Ray Biggs	Sanatorium
Revisions	Mrs. J. Rice Williams	Houston
Civil Defense	Mrs. George E. Riley	Jackson
Memorial	Mrs. Gilruth Darrington	Yazoo City

COUNCILORS

First District	Mrs. James Clark, Jr.	Ruleville
Second District	Mrs. R. L. Wyatt	Holly Springs
Third District	Mrs. M. Q. Ewing	Amory
Fourth District	Mrs. A. A. Derrick, Jr.	Durant
Fifth District	Mrs. Temple Ainsworth	Jackson
Sixth District	Mrs. Guy T. Vise	Meridian
Seventh District	Mrs. Harry G. Fridge	Hattiesburg
Eighth District	Mrs. R. B. Zeller	Hazlehurst
Ninth District	Mrs. M. M. Snelling	Gulfport

ATTEND EXECUTIVE BOARD MEETING

The following members of the executive board and presidents of local auxiliaries were present for the first meeting called by the president; Mrs. Richard H. Clark of Hattiesburg:

Mrs. S. L. Bailey of Kosciusko, Mrs. George W. Owen of Jackson, Mrs. C. C. Hightower, Jr., of Hattiesburg, Mrs. Harvey F. Garrison, Sr., of Jackson, Mrs. William Colmer of Hattiesburg, Mrs. T. A. Baines of Jackson, Mrs. H. Lowry Rush of Meridian, Mrs. S. B. McIlwain of Pascagoula, Mrs. T. E. Wilson of Jackson, Mrs. Ray Biggs of Sanatorium, Mrs. George E. Riley of Jackson, Mrs. A. A. Derrick, Jr. of Durant. The following presidents were there: Mrs. J. Walton Lipscomb of Jackson, Mrs. R. C. Eley of Moss Point, Mrs. S. B. Platt of Columbus, Mrs. S. L. Hollingsworth, of Columbus, Mrs. M. S. Riddell, Jr., of Winona, and Mrs. Joe McKinnon of Hattiesburg.

§

GULFPORT SPONSORS NURSING SCHOLARSHIP

Miss Capdepon, Winner, in Training in New Orleans

The Gulfport Unit to the Coast Counties Medical Auxiliary is so busy on original and worthwhile projects, its members are setting a pace for the entire state this year. Bill Carr's winning the national AACP award in the spring was followed by the selection by this same auxiliary unit of a winner for the $100 nurse's scholarship. This scholarship is offered each year to a senior girl graduating from Gulfport High School and planning to enter the nursing profession.

Miss Janis Capdepon, daughter of Mr. and Mrs. T. C. Capdepon of Gulfport, and a member of the Future Nurses Club of Gulfport High School, was awarded the scholarship this year at the graduation exercises. She is now in training in New Orleans, La., in the Charity Hospital.

Especially active in promoting and raising money for the nursing scholarship is Mrs. M. Dunn, chairman of this committee in the Coast Counties Medical Auxiliary.

Best wishes and a posy to Miss Capdepon!

SOUTHERN MEDICAL AUXILIARY MEET

The Southern Medical Association meets in Miami, Florida, November 10-13. The Auxiliary to the A.M.A. will furnish two of the speakers. Mrs. Ralph B. Eusden, president of the Auxiliary to the A.M.A. will discuss the aims and general program of the Auxiliary, and Mrs. John McCuskey, a vice chairman, will speak on nurse recruitment. Wives attending the SMA meeting with their husbands are invited to attend all activities of the Auxiliary.

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HIGH SCHOOL ESSAY CONTEST

The Sixth Annual Essay Contest among high school students on "Why the Private Practice of Medicine Furnishes This Country with the Finest Medical Care" has been announced by Dr. H. C. Ricks, chairman of the Committee on Public Relations of the state society. The contest is being sponsored in cooperation with the American Association of Physicians and Surgeons and all county medical societies are urged to sponsor the contest locally.

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TODAY'S HEALTH

National Public Relations Committee has designated December as the month for the promotion of *Today's Health*. How about subscriptions for Christmas gifts? There should be a copy of *Today's Health* in every doctor's waiting room.

————§————

BULLETIN

Have you seen the August issue of the *Bulletin*? It has been almost completely "re-done". It now has pictures, color and attractive arrangement. There is a State News Section where items of special activities on state level are published. Why not send your $1.00 to your district chairman now?

————§————

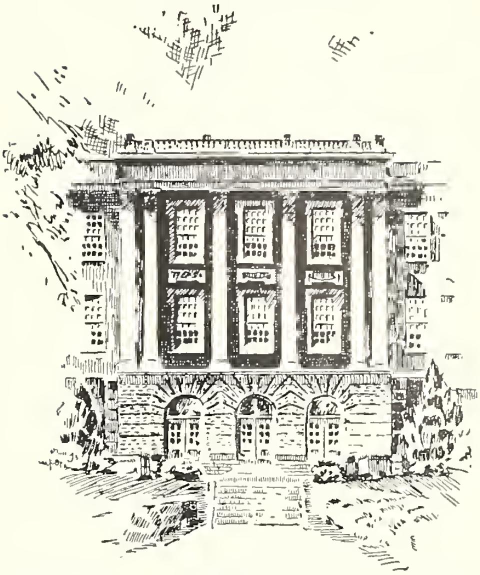
PUBLIC RELATIONS TIP

Has the film "Your Doctor", a short produced by RKO Radio with A.M.A. blessing, been shown at your local movie houses? If not, contact, or suggest that officials of your county medical society contact, movie managers of your area and urge them to book it. The film, which shows how a man gets to be an M.D., how he practices keeps up with medical progress, contributes to public health, etc., has been warmly received by audiences wherever shown to date.

JAMES W. BURKS, JR., M.D.
Certified By the
American Board of Dermatology & Syphilology
Hours by Appointment
Tuesday, Thursday and Saturday
1005 32nd Avenue Phone 3154
GULFPORT, MISSISSIPPI

BLUE MOUNTAIN COLLEGE

Blue Mountain, Miss.



Young women of college age are still in the formative period of their lives. While they are away from parents and home, their teachers exert a great and lasting influence on them. The faculty and staff of Christian woman's colleges are men and women of sterling Christian character who are well trained in their particular fields. They are able to give individual attention to the needs and problems of each student.

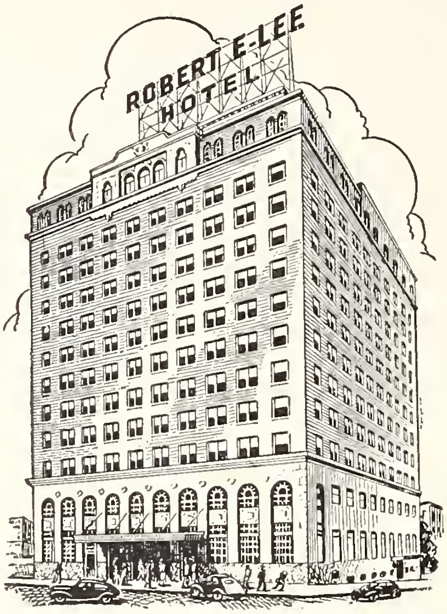
Every student is encouraged in individual development through the many organizations and campus activities. This is not always true in coeducational schools. No doubt the numerous and varied opportunities for leadership in our Christian woman's colleges account for the fact that their alumnae are almost always the civic, religious, and social leaders of their communities.

Alumnae of our Christian woman's colleges have in the past and will always lead in the establishing of Christian homes, the very foundation of a stable society.

The most outstanding advantage offered by the Christian woman's college is not easily describable or definable. It is the Christian atmosphere which is felt on its campus. Blue Mountain College has as its motto: "That our daughters may be cornerstones polished after the similitude of a palace." One of the greatest needs of our modern world is that our young women may be strong and intelligent and fashioned in the beauty and spirit of Christian living. *The Christian woman's college* is the answer.

For information, Write . . .
Lawrence T. Lowrey, President
Blue Mountain College
Blue Mountain, Mississippi —Adv.

Upholding The Traditions of The Old South



Nowhere will you find a hotel more luxurious in its accommodations, or richer in hospitality than the Robert E. Lee. Not only does it breathe the spirit of the South but its modern conveniences provide the utmost in comfort and service.

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For the Diagnosis and Treatment of Nervous and Mental Diseases, Drug Addiction and Alcoholism.

Modern Management of Hearing Loss

HOWARD P. HOUSE, M.D.
Los Angeles, Calif.

Hearing loss is a very common affliction of the human race. According to available statistics, approximately one out of ten of our populace has a hearing impairment. Modern methods of management have brought relief to many hard of hearing persons and it is the purpose of this paper to acquaint the physician in general practice with these advances.

TYPES OF HEARING IMPAIRMENT

A patient with a hearing impairment has one of three types, namely, conduction or middle ear loss, perception or nerve loss, or otosclerosis, which is often a combination of both middle ear and nerve involvement. Impaired hearing due to malingering or hysteria is not a true pathological entity and, therefore, will not be included in this discussion.

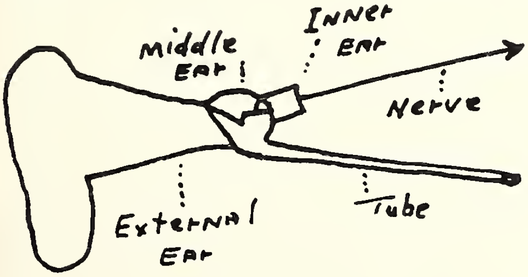

Fig. 1

CONDUCTION (MIDDLE EAR) IMPAIRMENT

Etiology

Any pathology that interferes with the transmission of sound vibrations to the inner ear (cochlea and auditory nerve) results in a conduction hearing loss. This pathology may be present in the external ear canal, the middle ear, or the eustachian tube. External ear canal obstruction is most commonly due to ceruminosis, furunculosis, or foreign bodies. The function of the ear drum may be interfered with by a perforation, edema, or by fibrosis (scars). Sound transmission through the middle ear may be impaired due to ossicular chain pathology, such as dislocation, articular disease, necrosis, or by the presence of fluid, either serous or purulent, in the middle ear. Eustachian tube obstruction results in pressure changes within the middle ear and likewise interferes with sound transmission. Tubal obstruction may be due to altitude changes, inflammatory or allergic edema, or adenoid hypertrophy.

Diagnosis

The diagnosis of conduction hearing loss is made on the basis of subjective findings, objective findings, tuning fork tests and audiograms.

The subjective findings in conduction loss are quite characteristic. The patient usually has a soft spoken voice, because external noise interference has been diminished and he, therefore, hears his own voice loudly. The low tones are not heard well and, therefore, the patient will state he hears better in a noisy environment. This occurs because other people to whom he is talking are conscious of the noisy environment and speak with more intensity. Crunchy foods, such as toast and celery, sound very loud to the conductive impaired individual and he often has to stop chewing in order to hear table conversation.

The objective findings in conduction hearing loss may reveal external ear canal, ear drum or eustachian tube pathology. A 512 tuning fork placed in the center of the forehead of a person with conduction hearing loss will be referred to the ear with the greater impairment, due to the exclusion of extrinsic sounds (Weber test). A 512 fork no longer heard when held one inch from the external ear will be heard when placed in contact with the mastoid bone (Rinne test).

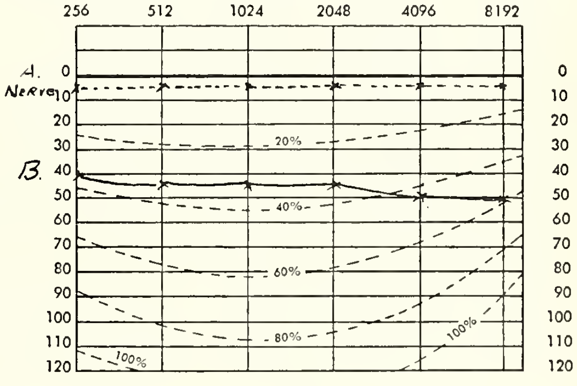

Fig. 2

Conduction or Middle Ear Impairment Audiogram.
A curve is the nerve response.
B curve is the middle ear response.

A reading taken with the audiometer will reveal loss of air-borne tones.

Treatment

Treatment of the patient with a conduction hearing loss depends on correction of the underlying pathology or of furnishing adequate substitution, as the individual case requires.

Removal of any external ear canal obstruction is imperative. Cerumen is best removed by syringing with body temperature solution, but only

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* Presented at the sixty-third annual session of the Mid-South Postgraduate Medical Assembly, Memphis, Tenn., February 10-13, 1952.

no previous ear disease. If a healed perforation exists, rupture may occur, or if a perforation of the drum pre-existed, the irrigating solution may create or activate an otitis media. As in other foreign bodies, if the cerumen is firmly impacted, or if previous ear disease has been present, it is best removed by a small ear hook.

Correction of any ear drum pathology, such as closure of an old perforation, is very desirable. This procedure is successful only in dry, central perforations. It may be accomplished by freshening the edges with a caustic and placing some material such as paper or scotch tape over the opening, thus allowing epithelization to occur under the substance. Marginal perforations, unfortunately, cannot be closed in this manner.

Conductive hearing impairment due to active middle ear disease necessitates our every effort in an attempt to stop further destruction of the hearing mechanism. Acute otitis media must be treated early and adequately in order to prevent a chronic infection from occurring. This is best accomplished by nasal shrinkage to evacuate the tube and by antibiotic therapy. If the ear drum is full or bulging a myringotomy should routinely be performed. If the fluid so encased in the middle ear is not drained subsequent fibrosis results both in further hearing loss and in encouraging subsequent attacks of otitis media. If, in spite of adequate treatment, the infection continues an adenoidectomy should be performed at four weeks in a further attempt to ventilate and evacuate the eustachian tube. One or two attacks of acute otitis media justifies an elective adenoidectomy. If the drainage continues for six weeks, it is suggestive of bone necrosis in the mastoid cells. If a prophylactic, simple mastoidectomy is not performed at this time, a chronic discharging ear may result with permanent middle ear damage.

Artificial ear drums (Pohlman inserts) may be used in carefully selected cases of bilateral conduction hearing loss due to chronic ear disease with partial or total destruction of the ear drum and ossicles. A testing probe is used to determine the sensitive contact point on the medial wall of the middle ear. The insert of choice is then fitted to the ear canal so as to contact this sensitive area. Artificial drums are of several types, such as the cotton pledget, the cellophane cone, moulded rubber (Korogel) and the diaphragm rod.

All persons with conductive loss can hear with amplification made possible by the electrical aid. When other means fail, the electrical aid serves this type of patient very well. Its disadvantages, such as the cosmetic effect, with the resultant psychological manifestations, the battery nuisance, and the telephone type of transmitted tone, are well known. One needs only to compare the hearing aid of today with is predecessors of ten years ago to appreciate the marked advances being made in the electronic field. It is imperative that every person acquiring a hearing aid be adequately instructed in its use for without such instruction the hearing aid is often relegated to the dresser drawer.

Altitude changes and upper respiratory infections frequently result in temporary obstruction of the eustachian tube, due to edema or accumulated mucoid material. If the tube does not open spontaneously, an inflation or two will usually clear the lumen and restore hearing.

Allergic edema of the tube may result in a prolonged bilateral conduction impairment. In these cases, there is usually an associated allergic rhinitis. The hearing difficulty may be temporarily relieved by inflation and by ephedrine and antihistaminics. After the diagnosis of an allergic tubal obstruction is established, a complete allergic study, followed by the necessary desensitization, is indicated in all cases.

Serous otitis media with fluid in the middle ear is often associated with an underlying allergy. A conduction impairment results and examination reveals a reddish pink discoloration over the lower one-half of the ear drum. A fluid level and air bubbles may be occasionally visualized through the drum. Treatment consists of myringotomy followed by inflation of the eustachian tube. Varying amounts of straw-colored fluid are expelled with immediate improvement in hearing. This treatment may have to be repeated together with a complete allergic study before permanent relief is obtained.

Lymphoid hypertrophy in the nasopharynx is the most frequent cause of conduction impairment in children. All such cases are entitled to a thorough adenoidectomy. Following surgery, if the hearing loss does not improve adequate radiation therapy should be given to the nasopharyngeal area to further eradicate every vestige of lymphoid tissue about the eustachian tube orifice.

PERCEPTION (NERVE IMPAIRMENT)

Etiology

Any pathology which interferes with the function of the cochlea or the pathways of the auditory portion of the eighth nerve results in perception or nerve loss. These include congenital malformations, allergy (edema of the cochlea), infection (labyrinthitis), acute and chronic systemic disease, drug sensitivities (alcohol, quinine, nicotine, streptomycin, etc.), nervous system disease (multiple sclerosis, syphilis, eighth nerve tumors), hemorrhage, acoustic trauma (blast injury), occupational deafness (prolonged exposure to high noise levels), skull fractures which involve the temporal bone, and others. Arteriosclerotic changes in later life cause a common type of nerve impairment seen in older persons, known as presbycusis.

Diagnosis

Subjectively, the perceptive patient, in contrast to the conductive patient, speaks loudly and in a monotone, because he does not hear his own voice. Because he usually hears low tones better than high tones he is confused in attempting to converse in a noisy environment. Crunchy foods make no difference to this individual because he isn't able to hear sounds from within or without.

Objectively, the examination may fail to reveal any evidence of ear pathology. A 512 tuning fork placed in the center of the forehead is referred to the ear of lesser impairment. A 512 fork no longer heard when held one inch from the external ear will likewise not be heard when held in contact with the mastoid bone.

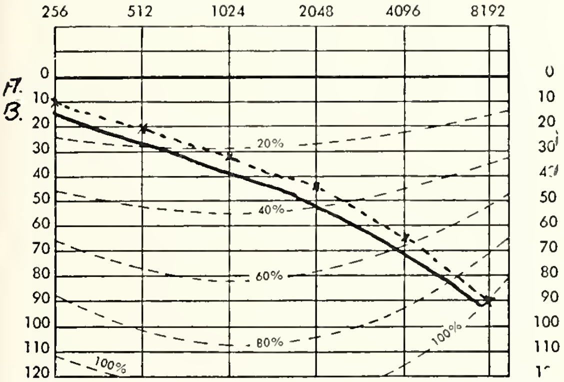

Fig. 3. Perception or Nerve Loss Audiogram. Note A and B curves are together, indicating no middle ear or conduction involvement.

Readings taken with the audiometer will reveal loss of both air and bone-borne tones in approximately the same degree. These findings are just opposite to those encountered in the conductive impaired individual.

Treatment

Unfortunately, the medical and surgical treatment of perceptive hearing impairment is for the most part unsatisfactory. Once the nerve is damaged it is permanent. Therefore, treatment is directed, not towards improving the individual's hearing, but rather to prevent further nerve loss from occurring. An excellent example of prevention is in the field of occupational hearing loss due to prolonged exposure to loud noise. Control of noise at its source, adequate ear protectors and routine periodic audiograms on persons working in high noise levels should go far in preventing this type of perceptive impairment from occurring. A complete history and a thorough physical examination are indicated in all cases to eliminate every possible underlying cause. The use of massive doses of Vitamin A, as well as thiamine chloride as advocated by some, in my experience has been of no value.

A hearing aid is of most benefit in nerve impaired cases if the low tones and the high tones have deteriorated in about the same proportion. In those cases where the low tones have remained relatively good and the high tones are impaired, the use of a hearing aid becomes more difficult because of the amplification of the low tones. In marked nerve impairment rehabilitation and auditory training with lip reading and speech conservation is essential. If the loss is congenital in origin, proper speech training must begin in the pre-school age, if the child is to be rehabilitated.

OTOSCLEROSIS

Etiology

The pathology of clinical otosclerosis consists of a developmental proliferation of the bone involving the area about the footplate of the stapes and the oval window, which separates the middle ear from the inner ear. The exact cause of this proliferation is not known, other than it is hereditary in nature.

The incidence of otosclerotic changes in the labyrinthine capsule is very high and is often found at autopsy in persons never known to have had a hearing impairment. How many persons go through life with otosclerosis which never manifests itself by involving the stapes footplate is not known.

Diagnosis

Otosclerosis is characterized by a progressive bilateral loss of hearing involving first the conductive and later the perceptive mechanism. It usually becomes apparent in early adult life and is frequently associated with tinnitus. There may or may not be a positive family history of hearing impairment. Frequently, the patient has some reason for hearing loss, such as trauma, childhood disease, or a recent upper respiratory infection. This, unfortunately, may cause the examining doctor to err in the diagnosis of otosclerosis.

A very thorough examination of the entire ear mechanism will fail to elicit any cause for the patient's impairment. The eustachian tubes inflate readily, the ear drums appear thin and translucent, and no apparent pathology can be noted.

By the time the patient seeks medical aid, an audiogram will reveal a bilateral conduction loss of 25 to 50 decibels, with or without evidence of nerve involvement.

Any progressive bilateral hearing impairment occurring in early or middle adult life which on examination does not present evidence of ear pathology suggests otosclerosis. This coupled with a co-existent tinnitus and a family history of impaired hearing without other apparent cause is almost diagnostic of otosclerosis.

Treatment

Perhaps no other group of individuals has been subjected to more treatment without benefit than has the unfortunate patient with otosclerosis. Repeated eustachian tube inflations, nose treat-

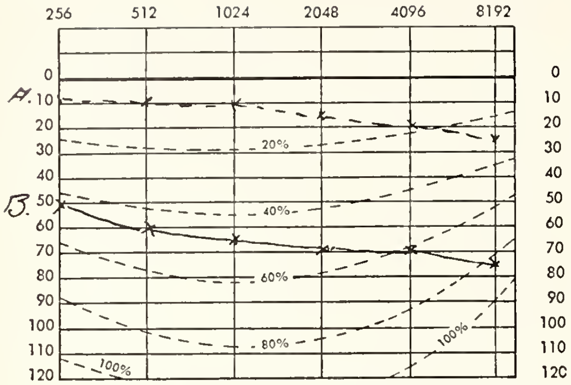

Fig. 4 — Otosclerosis
Note the mixed involvement of both the perceptive and conductive mechanism.

ments, nose and throat surgery, ear drum massage, various diets, endocrines, vitamins and minerals have all been put through their paces without noticeable benefit. When benefit has been derived, one is led to believe the diagnosis of otosclerosis was in error, for it is difficult when one visualizes the underlying pathology to understand how such therapy could have much reward.

The Fenestration Operation

Some seventy years ago a German otologist by the name of Kessel had a patient who was suffering from otosclerosis. The patient subsequently recovered his hearing in one ear following a skull fracture involving the temporal bone. Years later an autopsy revealed an open crack in the bone over the patient's membranous labyrinth. This led to considerable experimental work in creating surgically an opening in the osseous labyrinth. It was noted hearing was often restored as soon as this opening was made, providing the nerve function was capable of transmitting the sound to the brain. Likewise, as soon as the bony opening closed, hearing dropped back to its original level.

Passow, Jenkins, Barany, Holmgren and Sourdille are prominent names in the history of otosclerotic surgery and each made his contribution.

Some fifteen years ago Dr. Julius Lempert developed the first satisfactory surgical technique which could be employed routinely in these cases. Since then he and others have modified the procedure until now the bony window made over the labyrinth remains permanently patent in all but five per cent of the cases operated. If the opening closes, it will usually do so within the first six months after surgery and the hearing regresses to the preoperative level.

As one may well realize, surgery of this type is very delicate and exacting. Fortunately, the incidence of serious complications is very small. Today the patient with otosclerosis has two choices when the hearing loss becomes pronounced. One is to turn to the hearing aid and the other is the fenestration operation.

The hearing aid, as in all conductive cases, will give satisfactory results in early otosclerosis. Ultimately, if the otosclerotic process progresses, a hearing aid becomes increasingly difficult to wear, and the patient must turn to rehabilitation and lip reading, just as in the case of advanced nerve impairment.

The fenestration operation is indicated in any case of otosclerosis in which the ear drum is intact and the nerve function is capable of transmitting the normal ranges of conversation to the brain. The degree of nerve function present is determined by tuning fork tests and audiometric readings. If the patient has these qualifications the fenestration operation offers approximately two out of three chances of having serviceable hearing permanently restored.

When one realizes little or nothing could be done for these unfortunate persons a brief fifteen years ago, this is indeed a tribute to otology.

THE PHYSICIAN'S RESPONSIBILITY

Hearing is indeed a priceless asset which every physician is obliged to conserve. When a patient with a hearing loss seeks aid from the medical profession, the following course of procedure is advisable:

1. A complete personal and family history must be carefully and accurately obtained.
2. A thorough physical and otologic examination with complete hearing tests are essential.
3. After establishing the correct diagnosis and etiology, the entire problem involved should be carefully and fully explained to the patient and reassurance given to the individual that he will not go totally deaf. This is the chief concern of every person with a hearing loss.
4. The underlying cause should be eliminated when possible and medical and/or surgical treatment instituted, when indicated.
5. If a hearing aid and rehabilitation measures, such as lip reading and speech conservation, are the procedures of choice, it is the physician's duty to direct this patient to the proper sources for this type of therapy.
6. The facts and prognosis should be carefully and completely explained in order to obtain full patient cooperation. This cooperation is essential if the patient with a hearing loss is to get the most out of the future, in spite of the existing hearing handicap.

CONCLUSION

A brief summary of the problem of hearing impairment has been presented. It is the solemn responsibility of the medical profession to recognize hearing impairment as a disease which handicaps approximately ten per cent of our population, and to institute every possible means available to be of service to these unfortunate persons.

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Primary Treatment of Face Injuries by the General Surgeon *

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SEVENTY-FIVE thousand automobile accidents in Mississippi alone and a total of 1,799,800 in the United States in 1950 have produced in this country a conspicuous increase in peacetime maxillo-facial injuries. It is the rare automobile accident victim who does not receive some injuries to the face. Whether it be the typical mutilated dash board or crush injury or lacerations from flying glass or metal, the face is usually involved to a greater or less degree in every automoblie accident. When one considers, in addition to those face injuries incurred among the nearly two million automobile accident victims each year, those maxillo-facial injuries received in other modes of high speed transportation, plus those injuries occurring in the home, in industry, and in athletics, one is confronted with a situation which presents a challenge to the general surgeon or to the general practitioner whose lot it is to treat the vast majority of these cases first. In the larger hospitals it is usually the interne or resident on emergency call; in the small hospital, the general surgeon or the general practitioner whose responsibility it is to properly treat the accident victim. In either case it is by early and adequate care of these face wounds, whether mild or severe, that many facial deformities, lost man hours, mental anguish, and future complicated plastic procedures can be averted.

Fortunately the great majority of injuries of the face are not serious from the standpoint of life and death. It is for this reason, and justly so, that the general surgeon's attention is first given to more serious injuries, hemorrhage, shock, etc.—if such exists. One must in all cases evaluate the patient's general condition, remembering that first things come first. One should not, however, become so engrossed in the treatment of other injuries which the patient may have received and look with approving satisfaction at his handiwork as the patient improves under his care, only to realize days later that neglect of the face injury has resulted in a conspicuous and all too often irreparable deformity. The general surgeon is no longer justified in rationalizing that a poor result may be corrected later by a plastic surgeon if the patient so desires. It is the responsibility of the general surgeon to eliminate, if possible, the necessity of future reconstructive surgery; or if such is indicated, to present the patient to the maxillo-facial surgeon with the ground work of definitive surgery well started.

SOFT TISSUE INJURIES

Although the basic principles of the medical and surgical care of traumatized tissue apply to the face as well as to other parts of the body, certain other factors should be taken into consideration by the general surgeon who is called upon to treat a facial injury if a plastic surgeon is not available. Fortunately the face is blessed with an abundant blood supply, and for this reason most wounds heal surprisingly well with a minimum amount of infection if treated early and properly. It is for this reason that extensive soft tissue wounds about the face can often be closed without drainage. It is also for this reason that the closure of contaminated wounds about the face may be accomplished with relative impunity even after the usual five or six hour deadline is established for the safe closure of wounds of other parts of the body. Where actual infection and edema exist, it is at times advisable to delay repair for several days until all infection can be cleared up and a late primary closure can be accomplished. Face wounds should be cleansed thoroughly with green soap and water and irrigated copiously with warm sterile saline. Strong antiseptics have no place in the treatment of face wounds. Adequate but minimum debridement should be done. By adequate debridement is meant the removal of all devitalized tissue, detached bone, and foreign materia! By minimum debridement is meant the meticulous preservation of every shred of viable tissue. Extensive soft tissue wounds about the face often give the appearance of marked tissue loss. The degree of tissue loss, however, nearly always seems greater than it actually is; and if one will preserve every possible shred of viable tissue, one is usually surprised to find that by gently draping the tissue back into its original position the defect can be closed with little or no tissue loss or resulting deformity, the defect having appeared greater because of the distortion. Adequate hemostasis cannot be over-emphasized. Closure of the wound in layers to obliterate dead space and prevent depressed scars is important. The use of buried catgut sutures should be held to a minimum. It is advisable, however, to use a sufficient number of small gauge subcutaneous catgut sutures to obliterate dead space and to prevent tension on the skin edges. Four O chromic catgut lends itself very well for these sutures. The skin edges should be approximated with numerous inter-

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rupted sutures of six O black silk on a very small curved cutting needle. When larger needles and coarser sutures are used, the resulting suture scars are often more noticeable than is the healed wound. Skin hokos rather than thumb forceps or crushing clamps should be used to handle skin. In repairing lacerations of the face one should give special attention to Langer's lines. The common stellate lacerations of the forehead, especially those in a horizontal plane, are often best treated by excision of the irregular edges, undermining the wound and suturing in a single or straight line. Infraorbital lacerations, on the other hand, those in a vertical plane particularly, are at times most advantageously handled by staggering the incision and suturing in a zigzag manner in order to prevent a contracting downward pull on the lower lid.

Small interpolated flaps of skin and subcutaneous tissue can often be utilized in closure to avoid contracting pulls in straight lines. In deep wounds of the cheeks the ever present possibility of a laceration of Stenson's duct must be considered; and if such is found, the duct should be repaired over a suitable inlying dowel. Due to the irregular but symmetrical contours of the face one is limited to some extent in one's ability to close certain types of defects. This is especially true where tissue loss is concerned. In every case one's primary aim should be to reform the tissues so that the normal contours of the face will be preserved. Where extensive loss of tissue about the lips, cheeks, nose, etc., results in a fistula and where the extent of tissue loss precludes any attempt at closure without distorting the contours of the face, it is at times advisable to suture skin to mucous membranes and thereby at least accomplish the first stage for future reconstructive surgery in the way of sliding flaps or pedicle grafts. In suturing lacerations through the lips the first suture should be accurately placed in the vermilian border in order that an uninterrupted vermilian line will result. Buried sutures will prevent notching. Lacerations through the eyelids involving tarsus and obicularias should be closed in layers to prevent cicatricial entropian or extropian, and the lid margin should be approximated with meticulous care in order to prevent notching. In repairing lacerations about the ears care should be exercised in obtaining accurate apposition of the cartilage in order to prevent a terraced effect.

Every attempt should be made to cover cartilage with skin. Lacerations about the nose must be repaired with careful attention to symmetry, again taking particular precaution to accurately approximate the edges of the lacerated cartilage in order to prevent distortion of the nares. Lacerations of the tongue heal surprisingly well with a minimum number of interrupted sutures.

Tattoo injuries of the face where dirt, gravel, pigment, etc., have been ground into the tissues often tax the surgeon's patience and endurance. If one is to prevent unsightly pigmentation and scarring, however, these foreign particles must be removed. This is best done by scrubbing with a stiff brush and by removing the individual particles with a small eye curett or the point of a scalpel. Appropriate pressure dressings are usually indicated.

BONY INJURIES

Swelling of soft tissue injuries about the face may readily obscure underlying bone defects. Examination of the bony structures of the face is most important and should be done by careful and gentle bimanual palpation as well as by inspection and by x-ray studies. Asymmetry, mobility and crepitation may thus be discovered. Malocclusion of the teeth can be detected and an estimate of the type and magnitude of the treatment can be made.

FRACTURES OF THE MANDIBLE AND MAXILLA: In treating fractures of the mandible and maxilla, the surgeon's attention should be turned first to the careful suturing of lacerated tissue of the buccal mucous membrane. All detached pieces of bone should be removed as well as broken down teeth and teeth involved in the fracture site. Many ingenious methods have been devised for the immobilization of these fractures. In general, however, an attempt should be made to bring the existing teeth into their normal alignment. This can usually be accomplished by inter-dental wiring and inter-maxillary traction. The upper or lower maxilla is utilized as a splint for its injured counterpart. The Ivy loop wires and elastic traction will, in a very large percentage of cases, accomplish this purpose. In certain types of fractures of the jaw in edentulous patients, direct suturing of the bone fragments is resorted to. In more complicated situations the use of dental splints, external anchorage, or open reduction is necessary. The fundamental aim, however, of the surgeon administering early primary treatment in these cases is to bring the existing teeth into their normal anatomical alignment or occlusion.

FRACTURES OF THE NASAL BONES: Soft tissue swelling following trauma to the nose often obscures an existing deformity; and it is only by routine x-rays, whenever any doubt exists as to whether a fracture is present or not, that early proper treatment can be instituted.

A latent period of several days between injury and attempted correction often produces a most difficult situation. Most of the simple nasal fractures, both of the nasal bones and of the cartilaginous septum, can be treated under topical pontocaine or cocaine anesthesia. The Ash forceps have proved indispensable in our hands in manipulating nasal fractures and molding the fragments into proper position. Loose nasal packing and proper splints should be utilized after manipulation.

MALAR FRACTURES: The crushing, comminuted malar fracture, with associated fracture of the maxilla and injury to the paranasal sinuses, often presents real problems and ingenious methods have been devised for the reduction and support of such fractures. The general principles involved in these cases are the proper debridement and drainage of the paranasal sinuses and the support of the depressed malar fracture either by means of external suspension or internal leverage through the maxillary sinus itself. Fortunately most of the malar fractures are simple depressed fractures in which the malar bone is driven inward, creating a marked depression in the zygomatic prominence. These fractures should be elevated early, as one has only to attempt to break up a depressed and impacted simple malar fracture a week or more after its inception to appreciate the almost hopeless task with which he is confronted.

The fractures left untreated result in marked facial disfigurement and often permanent diplopia. Reduction at the time of, or shortly after, the injury is usually quite simple and most satisfactory. In our hands the method of Gilles has proved very effective. The author's description is as follows: "A curved incision 1½ inches long is made over the temporal muscle and well within the hairline. The edges are retracted; a small incision is made in the temporal fascia; and a long, thin elevator is passed downwards on the surface of the temporal muscle until it lies deep to the displaced bone. When the lever is inserted in the correct fascial plane, it slips under the depressed bone in the most convincing manner, while the operator's hand rests on the firm support given by the skull. The latter should be protected from local pressure injury by a large gauze pad. By careful levering movements the whole bony mass is elevated into correct position, a finger on the various points referred to previously is used as a guide to determine when this result has been achieved." In those cases wherein the fragments will not remain in position, traction to a plaster head cap can be employed.

ANESTHESIA: The majority of injuries of the face and jaws can be treated under local anesthesia. In selecting the anesthetic agent to be used in the treatment of injuries about the face one should consider not only the condition of the patient but also the location, nature, and extent of the facial injury. At times paresthesia of the involved area exists to the extent that supplemental local infiltration anesthesia is all that is necessary. In those cases where paresthesia does not exist and where more extensive surgery is necessary, the main trunks and peripheral branches of the maxillary and mandibular divisions of the trigeminal nerve can be blocked by depositing the anesthetic solution in the vicinity of the foramen from which they emerge from the skull.

Regional block anesthesia is advantageous over general anesthetics in surgery about the face and mouth in that the necessity of a cumbersome apparatus in or near the operative field is eliminated as is the postoperative nausea and vomiting which occasionally follows general anesthesia. This may be particularly troublesome in those cases where it has been necessary to wire the upper and lower teeth together in order to splint a jaw fracture.

In more complicated surgical problems where a general anesthetic is deemed necessary, the endotracheal tube is indispensable, not only eliminating the greater part of the anesthetic impedimenta in the surgical field but also insuring a free and adequate exchange of oxygen and carbon dioxide to and from the lungs.

SUMMARY

In conclusion may I emphasize the necessity of treating the injured patient as a whole; of first controlling hemorrhage and combating shock; of evaluating the degree of his injury with the ever present possibility of associated cervical, ocular, or intracranial trauma in mind; of meticulous debridement and of the necessity of differentiating the quick from the dead in regard to injured tissue; of the advantage of gentle and kindly handling of tissue and especially of skin; of the importance of preserving the normal contours of the face in the repair of both soft tissue and bone defects; and of the urgency of early and adequate treatment of every face injury.

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Some Newer Aspects of Blood Transfusion Therapy *

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NUMEROUS ADVANCES in knowledge pertaining to blood transfusion have been made during the past decade, partly as a result of the stimulus provided by World War II. It is therefore appropriate that some of the highlights be reviewed at this time. I shall invite attention to some of the most important uses of transfusion therapy in medical practice and also the principal hazards that have been clarified as a result of recent observations.

USES OF TRANSFUSION THERAPY

Whole Blood

Experience during the war years convinced surgeons that there is no adequate substitute for whole blood in the management of certain problems, especially operative and traumatic blood loss and in the treatment of severe thermal burns. Determinations of hemoglobin, hematocrit, blood specific gravity and blood pressure of the patient are useful guides in estimating requirements of whole blood. Changes in blood volume must also be taken into account in estimating the amount of blood that is necessary in the treatment of some patients, especially those suffering from thermal burns.

Exchange transfusions, in which the patient's blood is gradually withdrawn and replaced by normal whole blood, have enjoyed increasing popularity in the treatment of hemolytic disease of the newborn. The object of such transfusions is to remove the incompatible isoantibodies and the baby's susceptible red blood cells and breakdown products of the red cells, while giving normal compatible red blood cells and plasma in exchange. Further experience under controlled conditions will be necessary to clarify the exact indications for carrying out exchange transfusions in erythroblastotic babies. At present this procedure seems especially justified when the siblings of the erythroblastotic baby are known to have had severe hemolytic disease or when the cord blood hemoglobin is below normal. A firm serological diagnosis of hemolytic disease must of course be made before applying these criteria for subjecting the baby to such a radical procedure.

In some clinics, exchange transfusion is performed promptly in nearly all babies having unequivocal evidence of hemolytic disease, the Coombs antiglobulin test being relied upon to a great extent to indicate coating of the baby's red cells with antibody acquired from the mother. In other medical centers only the severely affected babies are so transfused. Anyone attempting exchange transfusion should be thoroughly indoctrinated beforehand. Otherwise, the risk of the procedure may be greater than the risk of permitting the child to struggle with the unmodified disease or with the benefit of only conventional transfusions. It is also essential that exchange transfusions be done at the earliest possible moment when they are technically easiest to perform. Their value decreases markedly after the first 24 hours, especially with regard to prevention of kernicterus, which at present is considered the prime objective of such transfusions.

Exchange transfusions are occasionally considered in the treatment of other conditions such as uremia, leukemia, hemolytic anemia and thrombocytopenic purpura. Although there is some rationale for the procedure in these conditions, exchange transfusion is seldom justified under these circumstances, especially in adults in whom very large volumes must be exchanged in order to provide adequate replacement of the patient's blood.

Red blood cell transfusion

Red blood cell transfusions deserve greater popularity than they have enjoyed in most medical circles. In many instances, the plasma can simply be withdrawn from the bottle after the bottle has stood in the refrigerator for 24 hours or more. Centrifugation and washing or resuspension of the cells with saline is not ordinarily necessary provided the cells are administered through a needle of size No. 18 or larger. The plasma removed can be utilized as such or can be pooled for fractionation. There is great need for plasma at the present time in both civilian and military medical practice because the small stores built up during World War II have been depleted. Red cell transfusions have the further advantage of providing cells in relatively small volume which is especially advantageous in patients with lowered cardiac reserve.

Red cell transfusions are most useful in treatment of chronic anemias that cannot be expected to respond to other therapy. In most cases of chronic anemia due to hypoplasia of the bone marrow, lymphoma, leukemia or hemolytic processes, the patient adjusts satisfactorily to hemoglobin concentrations of 8 to 11 gm/100 cc. It therefore seems wiser to transfuse red cells only as needed to maintain the hemoglobin concentration within these limits so that the patient can tolerate reasonable activity without undue fatigue or dyspnea. Efforts to maintain the hemoglobin within a more nearly normal range are seldom justified because of the added inconvenience and expense in addition to the potential hazards of hepatitis and transfusion hemosiderosis which will be emphasized later.

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Blood platelet transfusions

Attempts to transfuse blood platelets to thrombocytopenic patients have been discouraged in the past because of the fact that the life span of transfused platelets is only 4 to 6 days at most and platelets are so fragile that they are readily destroyed during the process of transfusion. More recently, however, equipment coated with non-wettable material such as silicone has been used in direct transfusions from donors with poly-cythemia vera having extremely high platelet counts. By using such technique, it has been feasible to raise the platelet count in thrombocytopenic recipients and thereby to arrest hemorrhage at least temporarily. Best results are obtained in patients whose thrombocytopenia is due to a failure of platelet production in contrast to those having substances in the plasma capable of destroying the patient's own platelets as well as the transfused platelets.

White cell transfusions

Attempts to raise the white blood cell count of leucopenic patients by transfusion have been unsuccessful, partly because of the rapid elimination of the cells from the recipient's circulation, especially by the lungs, and partly because of difficulty in storing leucocytes in-vitro. In treatment of severely leucopenic patients, anti-bacterial therapy has proved much more important than transfusions or attempts to stimulate leucopoiesis.

Plasma and plasma fractions

Plasma transfusions have proved their worth especially in military medicine. However, greater interest has recently centered about the use of plasma fractions and plasma substitutes such as dextran. Serum albumin has the advantage of being free of hepatitis virus and providing maximum osmotic effect with minimum volume. Salt poor albumin has been effective in promoting diuresis in some patients with chronic nephritis or cirrhosis of the liver but such therapy is justified only in carefully selected cases, especially during the present critical shortage of plasma for fractionation. It is totally impractical to give serum albumin as a means of supplying nutrition to patients unable to take sufficient calories by mouth. If the total caloric intake is inadequate, the albumin administered by vein is simply metabolized for energy and it is indeed an expensive fuel.

The use of whole blood or plasma to provide passive immunity to certain infectious agents such as the viruses of measles and mumps has been largely replaced by use of gamma globulin, which is much more convenient and does not involve as many potential risks. There is great need at the present time for larger supplies of gamma globulin. Such supplies will be available only if donor recruitment is improved and if large quantities of plasma can be salvaged from bottles of blood being used by patients needing only the red cells. Gamma globulin has ordinarily been prepared from plasma pooled from normal adults, most of whom have antibodies to common infectious agents such as measles virus. Gamma globulin prepared from donors recently recovered from various infections can be expected to supply antibodies that will provide temporary passive immunity to recipients in a wide variety of infectious diseases. The potentialities of this form of therapy have not yet been fully realized.

Use of Cohn's fraction I of human plasma has been limited in recent years because of unfortunate experiences with the development of hepatitis in recipients. Irradiation of this fraction with ultraviolet light has apparently been of some value but has not been proved to be completely effective in eradication of the virus. If the hazard of hepatitis virus can be eliminated, however, this fraction will be found to have a definite field of clinical application. Fibrinogen in fraction I is badly needed in patients suffering from the rare disorder, congenital afibrinogenemia, and from the more common, acquired fibrinogenopenic states encountered after severe hemorrhage and after placental separation or intrauterine death of the fetus in pregnant women. Whole plasma can be used in these conditions if fraction I is not available but the fractionated material is far more concentrated and effective.

The so-called antihemophilic globulin or thromboplastinogen in fraction I is capable of producing marked reduction in clotting time and in bleeding tendency in most hemophiliacs. Use of this material has declined in recent years, however, because of the hazard of hepatitis infection from pooled plasma used in preparing this fraction. It has been found, moreover, that some hemophiliacs develop antibodies capable of inactivating the thromboplastinogen. Because of these potentialities, the recent trend in hemophiliac therapy has been to prevent hemorrhage by proper advice to the patient and his parents and to use local hemostatic agents such as thrombin and fibrin foam if hemorrhage occurs externally. Unpooled normal human plasma or plasma frozen immediately after being drawn can be used to advantage in treating hemophiliacs who are bleeding actively. Routine prophylactic use of such plasma or of fraction I seems inadvisable, however, in view of the potential hazards and in view of the fact that many hemophiliacs will escape serious hemorrhage if properly educated.

HAZARDS OF TRANSFUSION THERAPY

Hepatitis

Some of the hazards of transfusion therapy have already been mentioned but deserve further emphasis. The viruses causing infectious hepatitis and so-called "serum hepatitis" are both transmissible by transfusion and both are hardy viruses remaining viable after storage for long periods and in various states. A single donor contributing to a large pool of plasma can contaminate the entire pool so that all recipients of that pool are subjected to the risk of developing hepatitis. This may occur even if a small fraction of a cubic centimeter of plasma from the pool is given to any one recipient. Since asymptomatic donors are capable of transmitting the virus unwittingly over long periods of time, methods for screening such donors are obviously needed. Our chief defenses meanwhile are to avoid unnecessary transfusions and to avoid pooling of plasma whenever possible. The risk from an individual unit of whole blood or plasma is not great but nevertheless increases as multiple transfusions are given.

Hemosiderosis

Iron liberated from broken down transfused red blood cells is conserved within the body just as it is from the patient's own red cells. Since there is no effective means for excreting iron introduced parenterally by transfusion, storage of iron chiefly as hemosiderin inevitably results after multiple transfusions of whole blood or red blood cells. With the advent of more extensive transfusion therapy during the past decade, the development of hemosiderosis has been observed in many cases, particularly in patients suffering from chronic anemia and therefore transfused repeatedly over long periods of time. Deposition of hemosiderin in tissues other than the reticuloendothelial cells may ultimately lead to cirrhosis of the liver, fibrosis of the pancreas and other tissue changes comparable to those seen in so-called endogenous hemochromatosis. Development of hemosiderosis is a complication that may limit transfusion therapy pursued over long periods of time. It is partly for this reason that one should be satisfied with mediocre levels of hemoglobin in patients with chronic anemia rather than to strive for complete normality which could be achieved only with frequent transfusions of large volumes of blood.

Transfusion reactions

More attention has recently been focused on some of the non-hemolytic reactions to transfusion of either plasma or whole blood or red blood cells. Many of the febrile or so-called pyrogenic reactions have been prevented by use of disposable equipment. Such reactions are still frequently encountered, however, especially in patients who are already febrile or who are suffering from severe anemia or infection or from certain diseases such as ulcerative colitis. Aspirin given in doses of 10 to 15 grains before and after transfusion will frequently prevent this type of reaction.

Allergic reactions are seldom serious but may be very disturbing and are therefore worth preventing by administration of antihistaminics. Adrenalin is still found necessary for treatment of some of the more severe allergic reactions. The so-called mechanical reactions deserve little comment except to emphasize that any equipment designed to introduce blood under positive pressure must be used with extreme care in order to avoid introduction of air into the recipient's circulation.

The hemolytic reactions are the most serious of all and have received much more attention recently than in the past. It is now appreciated that many hemolytic reactions have been overlooked especially in patients under anesthesia which served to mask the outward manifestations of the reaction. Thorough investigation of transfused patients has revealed that rather serious hemolytic reactions may occur much more often than was formerly realized and that the mortality rate from transfusion of incompatible blood is probably far below the figure of 50 per cent given by some of the earlier observers. It is impractical to type the red blood cells of donor and recipient for factors other than A, B, and D (Rho). However, cross-matches must be set up using techniques that will detect not only incompatibility with respect to these factors but also with respect to other factors especially c (Hr'), S and Kell. Other recently discovered red cell antigens are probably less important so far as transfusion incompatibility is concerned. Nevertheless, the potentiality for development of immune antibodies to the many red cell factors that have now been demonstrated should discourage one from giving transfusions of red cells or whole blood indiscriminately. The risk of isoimmunization by transfusion appears to be greatest in certain classes of patients especially those with lupus erythematosus, acquired hemolytic anemia, rheumatic fever and other diseases involving the reticuloendothelial or collagen systems.

"Dangerous" universal donors

Group O blood has frequently been given as a matter of convenience to recipients belonging to one or the other three major blood groups. This can usually be done with safety because the anti-A and anti-B in the group O plasma will exert little if any destructive effect on the recipient's red cells. The factor of safety, however, is a quantitative one and in some instances the titer and nature of the anti-A or anti-B in the group O plasma may render the blood unsafe for transfusion to A, B or AB recipients. Detailed studies have shown that certain group O donors are truly dangerous and transfusion of their plasma will cause sphering, increase in fragility and rapid destruction of the recipient's red blood cells. Hemoglobinemia, hemoglobinuria and mild jaundice may be detected for 2 or 3 days and there may be continuing destruction of the recipient's red corpuscles for as long as 2 or 3 weeks, thus producing severe anemia. The hazard of using universal donors is particularly great when multiple units are given, since the cumulative effect of the anti-A or anti-B agglutinins of ordinary titer may ultimately lead to destruction of the recipient's red cells.

Screening tests to eliminate group O donors having anti-A or anti-B in high titer are advisable whenever group O blood is to be given to recipients belonging to one of the other three major blood groups. The titer of anti-A and anti-B in group O blood can be greatly reduced by adding a small amount of soluble A and B factors which are now commercially available. While it has been found that this material will not make all group O bloods safe, it nevertheless decreases the hazard of using such donors.

Investigation of reactions

The investigation of suspected hemolytic transfusion reactions often proceeds in a haphazard manner and undue effort is frequently expended on relatively unimportant details. Whenever a hemolytic reaction is suspected, the most important single procedure that should be carried out is that of obtaining immediately a sample of blood serum from the recipient. This should be done with extreme care to avoid artificial hemolysis. Serum separated from clotted blood should be examined with the naked eye for the presence of free hemoglobin which will be readily visible in most cases if the donated cells have been rapidly destroyed. The same specimen of serum should then be used for cross-matching with red blood cells taken directly from the donor bottle if possible.

Rematching of donor blood from the pilot tube and the pretransfusion sample from the patient is much less informative because it does not exclude the possibility of a mix-up in tubes. Such a cross-match should nevertheless be carried out and donor pilot tubes should be carefully preserved for this purpose for as long as a week. Additional crossmatching should be done with another specimen of serum drawn from the patient 1 to 7 days after the transfusion. During this interval the isoantibody may be much more readily demonstrable than in the specimen taken immediately after transfusion.

Urine voided during the first 24 hours after a suspected hemolytic reaction should be examined, especially for the presence of free hemoglobin. Hemoglobinuria must not be confused with hematuria, which is of no significance in relation to the question of hemolysis.

Treatment of hemolytic reactions

Treatment fo a hemolytic transfusion reaction can usually be reduced to relatively simple terms. If the nature of the incompatibility can be determined, the patient will frequently benefit from transfusion of compatible whole blood especially if shock is still present. Fluids should be given only to replace the estimated fluid loss in the urine, sweat and the insensible water loss from the body. Forcing of fluids and alkali during a period of oliguria will frequently lead to disastrous water retention and there is little or nothing to be gained by attempts to increase the alkalinity of the urine. A diet high in carbohydrate and fat and low in protein will reduce the burden of nitrogenous substances to be excreted by the damaged kidney. Heroic measures such as removal of the kidney capsule are unjustified.

Prevention of hemolytic reactions

Hemolytic reactions can best be prevented by exercising extreme care both in the blood bank and at the patient's bedside. Blood transfusions have become so common place that those handling this form of therapy have in many instances taken their responsibility much too lightly. Errors result more frequently from carelessness than from lack of knowledge. Careful identification of the patient and of all test tubes and slides and of all donor bottles is essential. Adequate records in the blood bank and in the patient's chart are also firm requirements. Screening of universal donors and use of soluble A and B factors in neutralizing anti-A and anti-B in group O blood have already been mentioned.

Use of the husband or his siblings or offspring as donors for the wife is a practice to be discouraged whenever possible. Such donors are apt to sensitize the wife to red cell antigens which she lacks. Development of isoantibodies following such a transfusion may be disastrous in subsequent pregnancies in which similar antigens are present in the red blood cells of the fetus. If the wife has already carried a fetus possessing such red cell antigens, she may have a serious hemolytic reaction after the first transfusion of blood from the husband or his relatives.

The potential hazards of isosensitization and hemolytic transfusion reactions especially in females should deter the physician from giving unnecessary or so-called "cosmetic" transfusions.

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In summary, it should be stressed that research and clinical experience in the past decade have served to clarify both the uses and hazards of transfusion therapy. Although whole blood is needed in many instances, the growing tendency is to give the component of blood which is most needed in any given case. The potential hazards of hepatitis, hemosiderosis and isosensitization have been well defined and should serve to discourage indiscriminate use of the various types of transfusion therapy.

Low Back Pain *

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It is not my intention to attempt complete coverage of the field of low back pain but to limit discussion to the acute phase following minor trauma. The type to which reference is made occurs in episodes in certain prone individuals and unless promptly relieved may result in economic loss as well as physical discomfort.

It is my impression from the literature that from twenty to twenty-five years ago there was very little correlation of knowledge on the causes or differences in the types of back pain. Discomfort in the low back was usually covered by the terms—sprain, strain and sacro-iliac strain or 'dislocation'. There are references to each in standard textbooks and it is possible that the terms still have a place in the discussion of the disorder. If such is the case, I believe that they should occupy but a small niche and be of relatively little importance. A sprain of a muscle in the back is rare in my experience and is, I believe, almost completely confined to young athletes. It may occur in the older age groups but I have had very little experience with them in athletic endeavors. I have never understood just how one would go about dislocating, straining or spraining a sacroiliac joint, in view of the close cohesion of the bones and the powerful ligaments which we note at surgery on this area, except by severe trauma to the pelvis from a great fall or from an automobile wreck. It seems to me that injury of the sacro-iliac area is rendered more unlikely by the existence of a very weak and imperfect articulation in its immediate neighborhood—the lumbo-sacral joint. I do believe that muscle strain is a factor in the acute low back but feel that it is less often seen than we are inclined to think. As for the old differentiation between strain and sprain, I have never understood it, and I doubt that such terminology results from logical reasoning.

Dandy and his school brought considerable order and relative simplicity to the consideration of the area when he apparently went overboard for the concept of the ruptured nucleus pulposus and its incrimination in almost everything that happened to the low back. He has made many talks and written many articles and entered into many arguments at professional meetings in furthering this thesis. He says, essentially, that practically all pain in the low back which is not caused by degenerative or neoplastic disease or by fracture or dislocation is caused by degenerative or traumatic protrusion of the disc. He even contends that the cause of spondylolisthesis is degenerative or traumatic displacement of the fifth lumbar disc. It seems a bit difficult to follow him here but he has a rational argument in defense of the concept.

He has stated that he makes the diagnosis of a disc lesion which is amenable to surgery in all cases of persistent low back pain with sciatic radiation when the x-ray did not show obvious pathology and without the use of contrast media.

There are many who do not believe the situation quite so simple and it would seem that this limited concept has not met with wide acceptance even among the neurosurgeons whom I believe as a group, know very little about pathology in the low back.

While it is difficult to agree with all of his ideas, I do believe that when time and more group experience has clarified the matter for more exacting evaluation, his concept will more closely approximate reality than most of those advanced before or since. In making a statement of this sort one is laying himself liable to correction and criticism from his peers who are perhaps more erudite, for the very simple reasoning involved. It is true, however, that most of the verities are basically simple if one can just understand and comprehend them in their unadorned state.

Treatment of the acute but not yet proved surgical low back has varied considerably in the past, and apparently varies at the present time, as different men exercise their preference. When I was in medical school I was assigned a patient who had within the past few months been subjected to what was known as sciatic traction. This treatment involves placing a hook around the sciatic nerve and exerting traction through a pulley with a small weight. This particular man was treated in this manner for about a week. He stated that he was in considerable pain and that he was worse, after the treatment. The interesting thing about this situation was that after several months of continuing pain he began to improve and had very little pain when I saw him. This has always been a disconcerting thing about pain in this area. Most of the sufferers get well with or without treatment if enough time elapses. In many cases, sad to say, there is very little difference in the time involved under either regime. I have seen a well trained man, more or less convinced of Dandy's hypothesis, who placed his lame backs in a body cast with the spine in flexion because this increased the distance between the posterior aspects of the contiguous

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vertebral bodies, causing reduction of the nucleus pulposus because of its attachments to the annulus fibrosus and the latter's attachment to the vertebral bodies. His patients recovered and I was quite happy with this fine idea until I observed another equally finely trained doctor treating the same thing, with the same basic idea, except that he placed his patients in a cast in extension because he considered the opening of the anterior aspect of the contiguous vertebrae would give more room for the disc to reduce. While the former reasoning appeared to me to be the more logical, I saw no difference in the clinical result. Both groups got well in about the same length of time. Traction with adhesive on both lower extremities is probably the most popular treatment at the present time. It differs from other methods of handling in that there is frequently immediate relief from pain upon initiation of the traction. In my experience there is very little difference in the time element necessary to get the patient back to activity. All these methods are best done in a hospital and such does increase the cost considerably. The cost, alone, places these means of treatment beyond the reach of most of my patients.

There are so many causes of low back pain listed in the textbooks and articles on the subject that the listing would be confusing and unnecessary in a paper of this length. A fairly encompassing statement of these causes, as presently accepted, might be the following: The acute low back syndrome is based upon a variety of pathological entities. Among these are injuries to the intervertebral discs, trauma to the supporting structures, or changes in them, and apophyseal joint disease. Many other factors must certainly exist, and because they exist, the underlying mechanisms in the disorder with or without radicular pain are not always clear. It is my aim to call attention to the treatment of one of these causes which is not always clear and to suggest a treatment without even being certain of the diagnosis, although the syndrome of which I speak looks very much like that of a ruptured disc, in some cases, except that it is more easily reversible.

Whatever the basic stimulus initiating the acute low back picture, the reaction pattern is fairly constant. Any local insult to the vertebral column and its supporting structures provokes the characteristic response of splinting to prevent further trauma or pain. There may be, in addition to splinting, a reduction of lordosis and lateral or anterior pelvic tilt, both preventing motion and presumably relieving the pressure on the compressed root. Any safe means of obtaining rapid dissolution of this situation should be of special interest to us.

Medical men in general seem to have a mental block when one talks about manipulative therapy. Many to whom I have talked seem to pass over the topic lightly and to give the appearance of believing that such procedures are of value only in psychoneurotic patients who probably didn't have a pain anyway. I believe this attitude to be unjustified and probably prejudicial to the treatment of patients. This attitude is not widely met in England where there is much manipulative therapy by doctors of various capacities and specialties. This is true to a less extent on our own northeast coast. So far as I personally know it is widely disregarded in other sections of this country. It would possibly be well for us to bear in mind that we have as direct competitors certain cultists and irregular practitioners who do not have access to the knowledge of the human body that we enjoy and who have very little scientific background or ethical compulsion and that these people do treat our patients and that they do get good results in many cases. In my opinion this should not be true, but it is. Unfortunately they frequently treat patients who have previously been treated by medical men and get relief of pain where we have failed. In gaining entree into the confidence of the patient by relatively a simple manipulation some of these people may, and sometimes do, cause irreparable damage to the patient as well as his attitude towards the medical profession. For these reasons, if for no other, I believe that consideration of this type therapy deserves our attention.

The traditional methods of achieving muscle relaxation are well known and efficient at times but unfortunately they are time consuming for the doctor as well as for the patient, and they are of equivocal value. In my experience the most practical muscle relaxing agent for office use is physostigmine. I have tried curare and found it not a practical office procedure. I have found no value in myanesin by mouth and have not tried it intravenously because I am satisfied with my results without its use, particularly since, intravenously, there is some difficulty connected with the office use.

One one hundredth grain of physostigmine buffered with the same amount of atropine will provide clinically evident decrease in spasm within 10 to 20 minutes and subjective diminution in pain. The relief is augmented by local heat. It seems that wet heat is more efficient than other types.

In a limited discussion it is best that a very small phase of the problem be discussed. I would like to talk specifically about the incident that occurs in all our offices almost every day. The patient characteristically comes into the office walking with a shuffle and a stiff back. There is usually some pelvic tilt, resulting in a peculiar hip-high gait. He states that he leaned over to pick up a book, threw a rock at a dog, was hoeing in his garden and struck a rock, or some other usually innocuous endeavor, when he 'felt something slip' in his back. There was immediate, severe pain in the low back, usually more on one side than the other and frequently pain 'like an electric shock' down the postero-lateral aspect of the thigh, behind the knee or some other sciatic component area. Relatively infrequently there is complaint of pain high to mid thigh, anterolaterally and laterally in the area of the lateral cutaneous nerve of the thigh, which, I believe, usually originates from the 4th lumbar level. These are the cases which we usually treat by heat and strapping, if mild, and by traction, if severe. I believe that the employment of manipulation offers these people faster relief with less time involved and less money spent. It is effective with no observable relation to severity or to the presence or absence of sciatic radiation.

It is my practice to administer the physostigmine-atropine mixture, place the patient prone on the examining table and expose the low back to heat for twenty minutes. Wet towels and infra-red heat source is used. After this the low back is manipulated in a rotary manner, with the patient lying on his side, being careful to nullify the rotation of the dorsal spine by maximal, gentle rotation before attempting the final thrust which manipulates the lumbar spine. This is necessary because rotation of the spine does not normally take place in the lumbar component. Any passive rotary movement here is usually accompanied by a click, which is audible to the examiner, as well as the patient. This occurs in the painful back as well as the normal back. I have no explanation for the phenomenon but do know that it manifests successful low back manipulation.

In my cases the number of treatments necessary for pain relief is in direct proportion to the length of time the pain has been present. This is true of the group but is not necessarily true in the individual case. At times one may see a man who has had several months of pain markedly relieved by one treatment. I have one case that is not typical but about whom I like to talk because he is an outstanding example of the value of this form of treatment. He is also outstanding as an example of how one may be misled in diagnosis by associated conditions. This man is a farmer who has led a very busy life for years. He had had minor episodes of low back pain for years but none had enough to necessitate his seeking medical care. About six months before I saw him, he had a 'crick' in his back after picking up a light weight. This became progressively worse until his back spasm and pain was so severe as to make it difficult for him to carry on his usual work. He found it necessary to spend from 4 to 6 hours out of his working day in bed. He was advised by his doctor to go to one of the country's leading orthopedic clinics for diagnosis. This he did and was thoroughly studied. The x-rays of his spine were so striking, as was hypertrophic lipping of the acetabulae, that after careful consultation with several other doctors in the clinic he was given a rather pessimistic prognosis. He was told that in view of their findings he could be expected to become progressively worse for the remainder of his life and cautioned against the use of too much medication, particularly narcotics. It was felt that he had about one more year in which to sell his plantation or obtain a good manager because much of his time after that would be spent at rest. This man is a personal friend of mine, of many years standing, and he came to see me to ask if I knew any other clinic group to which he might go for more advice. He hoped to find someone at least a bit less pessimistic. Upon talking with him and examining his back it appeared to me that he was different from the type of patient about which I have been talking, only in the duration of his pain. I subjected him to manipulation and he readily responded. He was soon riding horseback and doing his usual work and he tells me that he has had no pain. I presume that this is true because I have not seen him for treatment of the back since that time. On examination, recently, I found him to have no spasm, no limitation of motion and no objective evidence of pain. I first treated him twelve months ago and he received two treatments on consecutive days. I later saw his x-rays and was very happy about my ignorance, because, had I seen them first I would have assumed his previous advice to have been correct.

In conclusion, I should like to say that manipulation is an accredited phase of the healing arts and that it should not be forced into the hands of the irregular practitioners. In my experience, they do not do it very well, anyway. I feel that it deserves more attention than it gets and that it should certainly be tried before giving a patient a very pessimistic prognosis. It is useful in making a differential diagnosis and is sometimes very revealing. I should also like to repeat that there is no correlation between severity of symptoms and the results of this therapy. Finally, in my office practice, I relieve completely 75 per cent of the low back complaints that I see and improve about another 10 per cent. About the same percentages hold true for many other types of handling, but with manipulation the time factor is cut to an average of about two days. I believe that this is an improvement.

An Evaluation of Lumbar Sympathectomy for Peripheral Vascular Disorders *

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Following Claude Bernard's classic description of increased blood flow after sympathetic denervation a hundred years ago, the physiological pattern of the autonomic nervous system was slowly assembled. During the past twenty-five years, lumbar sympathectomy has been proved to be an extremely valuable procedure with a wide range of application in the treatment of arterial insufficiency of the lower extremities. Its value in those disorders in which vasospasticity plays a primary role was promptly accepted. However, twenty years passed before its value was proved for the obliterative arterial diseases. Here, sympathectomy may favor the development of collateral circulation in the smaller, unaffected vessels, even though it affects no alteration in the disease process per se.

Recently, I had the opportunity to collaborate in an analysis of 200 consecutive patients followed six months to five years, in which lumbar sympathectomy was utilized in the treatment of all types of peripheral vascular disease of the lower extremity. This study was undertaken to select from this group criteria with which cases may be chosen for which the operation may be of benefit, and to review the unsatisfactory results to determine contraindications for sympathectomy.

To be sure, sympathectomy is not a cure-all for all peripheral vascular diseases. However, it may play a definite role in the overall management of these disorders if the three major effects of sympathetic denervation are kept in mind. These are: to abolish vasospasm, to abolish or reduce pain which may be associated with reduced arterial circulation, and to abolish sweating. Other surgical procedures which may be coupled with sympathectomy in the treatment of arterial disorders are thromboendarterectomy, arteriectomy, transmetatarsal amputation, and embolectomy.

In addition to the routine physical examination, including the observation of peripheral pulses, skin changes, and the angle of circulatory insufficiency, additional information regarding the status of the circulation of an extremity may be gathered by the following studies: 1) measurement of limb pulsation — oscillometry; 2) measurement of skin temperature responses to environment and vasodilatation; 3) measurement of muscle function by walking tests or working tests; 4) arteriography; and 5) neurodermometry.

Seventy-eight of the 200 patients reviewed had sympathectomy performed for various vasospastic disorders. The physiological results to be expected in these cases are definitely related to the three major effects of sympathectomy. They are, again, elimination of spasm in otherwise normal arteries, elimination of profuse sweating of an extremity, and reduction of pain due to tissue hypoxia of stimulation of sympathetic afferent pain fibers. The indications for surgery in these cases included physical injuries as gunshot wound, fracture, crushing injury, or arterial injury; thermal injury, as burn, frostbite, or immersion or trenchfoot; or, chronic inflammatory processes, as the postphlebitic extremity, chronic infection, or osteomyelitis. While sympathectomy was specific for those cases of physical and thermal injury and 100 per cent satisfactory results were noted in those cases, the indication was less specific in cases of chronic inflammation, and the operation was used for its adjunctive role in the overall management of the disorder.

Sympathectomy was performed on twenty-two patients for thromboangiitis obliterans or Buerger's disease. In sixteen patients, a bilateral operation was done. In six, a unilateral operation was performed. Five patients were treated during an acute exacerbation of the disease, while seventeen others received sympathectomy as an adjunct in the management of the chronic state of the disease. Satisfactory improvement was observed in 82 per cent of the total. The need for amputation within one to six months in the four remaining cases necessitated a classification of unsatisfactory. It might be noted here that three of these four cases were in men who persisted in being heavy smokers — once again an indication that Buerger's disease and cigarettes are not good bedfellows.

One-half of the group of two hundred patients studied had sympathectomy performed for arteriosclerosis obliterans. The indications for surgery in these patients included intermittent claudication, rest pain, sensitivity to cold, impaired arterial pulsation, postural color changes, objective decreased skin temperature, trophic changes of scarring, skin, muscle and bone atrophy, ulceration and gangrene. In four cases, sympathectomy was done concomitantly with embolectomy and in six, it was done for thrombosis of the terminal aorta or one or both common iliac arteries. The criteria for improvement in these cases included the alleviation of rest pain, improvement of

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claudication or ulceration, arrest of gangrene, and the fact that the patient did not develop subsequent gangrene of the sympathectomized extremity. Satisfactory result was observed in 76 per cent of the one hundred patients.

The unsatisfactory result in the arteriosclerotic group may be subdivided as follows: 1) Failure to observe relief of rest pain or claudication. There were three patients thusly classified. There is, at present, controversy over the justification of observing claudication and rest pain, in the absence of other complications of arteriosclerosis, as indications for sympathectomy. It might be said here that 51 of 54 patients who presented claudication and rest pain alone derived a satisfactory clinical result from the operation. In addition, any of these patients are likely candidates for later superficial complications of ulceration and gangrene, and sympathectomy serves a useful role in increasing skin resistance to the minor traumas or infections which can rapidly lead to widespread necrosis.

2) Subsequent major amputation was required in eighteen patients. Seven of these had amputation below the knee, and eleven had supracondylar amputation. Though classified as unsatisfactory results, the seven cases with the below knee amputation probably derived some benefit from the sympathectomy, for none of these have required revision, and all are able to wear a prosthesis quite satisfactorily.

3) So-called paradoxical gangrene was observed in four cases. We, along with most other observers, do not believe there is such a thing as paradoxical gangrene. Multiple proximal small arteriovenous shunts had been postulated as the precipitating cause of distal thrombosis. However, in each of the four cases that we observed, there was ample evidence that there was poor available collateral to begin with and that either progressive rapid thrombosis which might have been present prior to operation, and/or depression of the circulation during the post-operative period were the contributory factors, and that the actual division of the sympathetic nerve fibers did not precipitate gangrene of the extremity. In one of these four cases, an arteriogram was performed during surgery by injection of 75 per cent neoiopax into the common iliac artery. It was believed that vasospasm due to the contrast media contributed to rapid thrombosis which developed immediately after surgery. The other three patients developed an insidious progressive gangrene within a week following surgery.

4) Post-operative deaths. Though there were five hospital deaths in the series, all could not be assigned directly to the operation for sympathectomy. One expired three and a half months after operation with thrombosis of the aorta distal to the renal arteries. The second died on the twelfth post-operative day with bacterial endocarditis. The third died on the tenth post-operative day in refractory diabetic coma. The fourth died on the ninth post-operative day with a cerebrovascular accident. The fifth died fifteen hours after surgery, failing to respond to efforts to combat a persistent hypotension which developed during surgery.

After having evaluated these one hundred patients who underwent sympathectomy for arteriosclerosis obliterans, we arrived at the following possible contraindications for sympathectomy for this disorder:

1) severe cardiac cerebral and/or renal disease.
2) deep gangrene proximal to the toes.
3) rapid and progressive thrombosis of major arteries.
4) marked atrophy of skin and subcutaneous tissues of foot or leg with rubor or cold inflammation of the foot.
5) constant intractable rest pain not relieved by paraspinal or peripheral nerve block.
6) failure of basal skin temperature to respond to paravertebral or spinal block, inferring lack of vasospasm complicating organic ischemia.

At the present time, there is considerable controversy over the value of preoperative skin temperature tests. In this study, it was revealed that 80 per cent of the group in whom skin temperatures failed to rise preoperatively later derived a remarkable benefit from the operation. Conversely, most patients who were ultimately classified as unsatisfactory results, failed to show significant rise of skin temperature following block preoperatively.

Additional factors in the management which may effect the prognosis in arteriosclerosis include the following:

1) Judicious early use of heparin in selected cases with impending gangrene may forestall thrombosis which accounts for the majority of cases of so-called paradoxical gangrene.
2) Thrombo-endarterectomy, in cases of segmental occlusion, or arteriectomy, in cases of irreparable thrombosis, increased blood flow below the site.
3) Gradual resumption of activity with slow walking and frequent rest.
4) Meticulous diabetic control.
5) Direct instruction regarding careful foot hygiene.
6) Abstinence for smoking.

The latter four of these factors deserve the careful observation of the surgeon and the utmost cooperation on the part of the patient.

IN SUMMARY, 200 consecutive cases in which lumbar sympathectomies were performed were analyzed. All of seventy-eight patients who received the operation for vasospastic disorders were considered improved. Eighty-two per cent of twenty-two victims of thrombo-angiitis obliterans were improved. Seventy-six per cent of one hundred arteriosclerotics were improved. The causes for unsatisfactory results in the remaining twenty-four arteriosclerotics were reviewed, and criteria have been suggested by which cases may be selected for sympathectomy with a reasonable expectation of improvement.

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The Relationship of Malignancy of the Cervix to Supracervical Hysterectomy

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Since August, 1948 we have seen in our Cancer Clinic 243 patients with malignancy of the cervix. In seeing these patients we have been struck with the rather large number who have previously had a supracervical hysterectomy. For this reason I decided to review a hundred unselected cases of malignancy of the cervix seen during the past four years. In this group there were 98 patients with epidermoid carcinoma and two with sarcoma. The findings of this case review have convinced me that a supracervical hysterectomy is an invitation to cancer, for out of this 100 patients with malignancy of the cervix 13 or 13 per cent had previously had a supracervical hysterectomy. Obviously if these 13 patients had had a total hysterectomy instead of a supracervical hysterectomy they would never have developed cancer of the cervix.

It has seemed to us that once a woman has had a supracervical hysterectomy she is less inclined to be alarmed by a vaginal discharge or by vaginal spotting than she would have been if she had never had previous pelvic surgery, for to her the womb has been removed and can no longer cause trouble. Many of the patients in our series, who had cancer of the cervix, did not even know that the cervix still remained. I am sure that most doctors who do a supracervical hysterectomy tell the patient that the cervix has been left and that it may possibly cause trouble in the future. Certainly we should emphasize this to such patients but it is very easy for them to become confused and feel that the womb is out and that a vaginal discharge is not now significant.

It has never seemed logical to us to remove the fundus of the uterus and leave the portion which most often develops carcinoma, for after all 90 per cent or more of malignancies of the uterus occur in the cervix while less than 10 per cent occur in the fundus. So why remove the fundus of the uterus and leave the portion that presents the greater threat to the life of the patient? We feel that if there are adequate indications for hysterectomy, it is best to perform a total hysterectomy rather than to perform a subtotal hysterectomy.

It has been said that a total hysterectomy shortens the vagina. Our experience does not substantiate this. It has also been said that there is some dryness of the vagina. Usually this is not troublesome but if it is a little surgical lubricant will readily overcome this difficulty. Certainly it is much easier to do a total hysterectomy in the beginning than it is to go back and remove a cervical stump that had been left behind. In comparing the risk of a supracervical hysterectomy with that of a total hysterectomy, it has seemed to us that there is practically no difference in morbidity and mortality when the operation is performed by a competent surgeon.

Now, I do not mean to infer that we never do a supracervical hysterectomy. There will be a few patients who have dense adhesions in the cul-de-sac plastering the rectum up against the lower uterine segment so densely that dissection is extremely difficult. These will usually be patients who have had marked endometriosis or very severe pelvic inflammatory disease and in these instances a supracervical hysterectomy combined with adequate treatment of the cervix from below may be the operation of choice, but there won't be very many patients who will fall into this category.

So we feel that one good reason for doing a total hysterectomy rather than a subtotal hysterectomy is the possibility of the development of malignancy in the cervical stump. Now, there is another good reason for doing a total hysterectomy. Out of the hundred patients in this series there were three who had fibroids and it was because of the fibroids that operation had been advised and was carried out. The operation was a total hysterectomy and when the specimen was given to the pathologist he reported that not only were there fibroids present but there was a small carcinoma of the cervix. If a subtotal hysterectomy had been performed instead of a total hysterectomy, these three malignancies of the cervix would have been overlooked.

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* Read before the fifty-eighth semi-annual session of the Delta Medical Society, October 8, 1952, Cleveland, Miss.

There was one patient in this series who had had a subtotal hysterectomy in December of 1947, she said "for cancer of the uterus". We saw her in the latter part of 1948 for carcinoma of the cervix. Now whether she really had a malignancy of the fundus in 1947 I don't know, but in any event she should have had a total hysterectomy at that time rather than a supracervical hysterectomy.

The review of a series of cases of malignancy of the uterus emphasizes another thing, and that is that a D. and C. is not an infallible procedure in diagnosing cancer of the uterus. If we have a woman of menopausal age who is bleeding irregularly from the uterus and we do a diagnostic D. and C. and don't find cancer, the chances are that she doesn't have cancer but we can't be sure that she doesn't have cancer, for no matter how thoroughly we perform the curettement it is still possible to overlook an early malignancy of the uterus. I had once a colored woman, 48 years old, who had been bleeding irregularly and I did a diagnostic D. and C. There was a rather large amount of endometrium found but the pathologist did not find any malignant tissue. Before she left the hospital I became a bit concerned about her because the uterus seemed slightly enlarged and I advised her to go ahead with a hysterectomy but she postponed the operation and when I next heard from her six months later she had an advanced malignancy of the cervix. It became obvious then that I should have done a total hysterectomy instead of just a curettement when I first saw her.

We feel that given a woman in her late forties or older who is bleeding irregularly it is probably safer to go ahead with a total hysterectomy than it is to perform a diagnostic D. and C. and then feel that we have ruled out the possibility of serious trouble.

In summary then, I have reviewed a hundred cases of malignancy of the cervix, 98 of these were epidermoid carcinoma and two sarcoma and in these 100 patients I found 13 who have previously had a supracervical hysterectomy. If these 13 patients had been subjected to a total hysterectomy instead of an incomplete operation they would never have developed malignancy of the cervix.

Secondly, there were three patients in the series who had a hysterectomy performed because of uterine fibroids. Fortunately, a total hysterectomy was performed in each case because when the specimens were examined each of these three patients had an early malignancy of the cervix, which would have gone unrecognized if we had not performed a total hysterectomy.

We feel that supracervical hysterectomy is an operation with a limited field of usefulness. It is much better in the average case to do a total hysterectomy and so remove the cervix and the possibility of it later becoming malignant.

DISCUSSION

Dr. Fred Hauser (Greenville), Dr. George Archer has given us an excellent and concise paper on the relationship of malignancy of the cervix to supracervical hysterectomy. The most striking observation from this review of 100 unselected cases of malignancy of the cervix is that 13, or 13 per cent, had previously had a supracervical hysterectomy. This point alone should make the most ardent advocates of subtotal hysterectomy stop and re-evaluate their position. It takes only a few minutes more to perform a total hysterectomy than to do a supravaginal and as has been pointed out these few minutes will remove that part of the uterus in which more than 90 per cent of uterine malignancies develop.

There has been much discussion and many papers written on total versus subtotal hysterectomy. In recent years improved surgical techniques, antibiotics, improved anesthesia and blood banks have made total hysterectomy not only feasible but as safe as the supracervical procedures. Dr. Archer has briefly mentioned some of the objections that have been raised against complete hysterectomy; for example, alleged shortening of the vagina. In this connection I would like to call attention to the only two papers in which actual measurements have been done pre-operatively and post-operatively. Castallo and Wainer from Jefferson Medical College and Hospital in 1950 found an average increase in vagina length of 2.4 centimeters. They attributed the increased vaginal length to the inherent elasticity of the vagina, the imbrication of the supporting ligaments and a shortening of the utero-sacral ligaments. J. F. Jewett from Free Hospital for Women Brookline and Department of Gynecology Harvard Medical School in 1952 reported that the vaginal length was either lengthened or unchanged in 88 per cent of cases and shortened in 12 per cent of cases with a mean increase of .8 centimeters.

Dr. Archer also pointed out there is practically no difference in mortality or morbidity. To substantiate this I will cite an article by Cron, Stauffer and Paegel from Milwaukee, Wisconsin in 1951.

MORBIDITY FIGURES

	500 Hysterectomy Cases	500 Hysterectomy Cases after Penicillin Suppositories pre-operative
Subtotal Hysterectomy	51 per cent	28 per cent
Total Hysterectomy	38 per cent	21 per cent

Those of us who have done total hysterectomies for diseases of the internal genitalia such as fibroids with no evidence of carcinoma of the cervix being noted prior to surgery have been firmly convinced that this was the procedure of choice when the pathologist reported not only the known pathology but also a small carcinoma of the cervix.

It was very interesting to me to hear Dr. Archer point out that "given a woman in her late forties or older who is bleeding irregularly it is probably safer to go ahead with a total hysterectomy than it is to perform a diagnostic D. and C. and then feel that we have ruled out the possibility of serious trouble." I think that this represents a recent trend which is becoming more manifest as time goes by. In general my procedure in a case such as this would depend on the type patient in question. If I felt that there was a good chance that the patient would not return for adequate follow up I would seriously consider a total hysterectomy as Dr. Archer suggested. On the other hand if the patient could be depended upon for periodic visits I would do a D. and C., realizing the possibility that an early cancer could be overlooked, and follow the patient closely post-operatively with frequent examinations and Papanicolaon smears as indicated.

I think Dr. Archer has presented a very interesting and informative paper and I want to thank him for the opportunity of discussing this subject.

§

The Gynecological Aspects of the Female Urethra [*]

JOHN F. LUCAS, M.D.
Greenwood, Miss.

PROBABLY THE most common urologic disorder seen by the gynecologist who does female urology is chronic non-specific infection of the female urethra. The medical profession is to be commended for its awareness of pyelitis and other infections of the upper urinary tract, but I fear this has been achieved to the exclusion of this entity which has received only cursory attention and has not been accorded the emphasis which it merits.

Time will not permit a discussion of all the important lesions of the female urethra, but I do wish to call your attention to the significance of chronic non-specific urethritis from the standpoint of etiology, symptoms, diagnosis, and treatment.

The female urethra is a short tubular structure, approximately 4 cm. in length, extending from the bladder to the vestibule. The external urethral meatus, which is usually the narrowest portion of the canal, appears as a slit or may resemble an inverted Y. The wall has a mucus, submucus, and muscular coat. The epithelium lining the canal is of a stratified squamous type except near the bladder, where it becomes transitional in type, similar to that of the bladder. There are many small tubular glands in the proximal one third of the urethra and a few smaller ones in the outer third. On each side of the floor of the urethra, just within the external meatus, are the two openings of Skene's glands. The submucosa is a layer of loose areola tissue with some elastic fibers and a network of venous spaces. The muscular coat is composed of two layers, an inner longitudinal layer and an outer circular layer. The inner portion of the circular layer at the vesical outlet forms the involuntary sphincter of the bladder. The true voluntary sphincter is a layer of striated muscle fibers arising between the two layers of the triangular ligament, surrounding completely the urethra and extending proximally to the vesical outlet.

The location of the female urethral orifice in close relation to the vagina and rectum renders it susceptible to irritation and infection by virtue of diaper contamination in infancy and the extreme frequency of vaginal and cervical infections in the adult, the presence of menstrual fluids, masturbation and trauma incident to childbirth and intercourse. Upper urinary tract infections, application of radium to the cervix, preoperative or postoperative catheterizations, are all forerunners of urethral infections. The prolonged use of indwelling urethral catheters in cases in which patients are unable to micturate during the early postoperative period often introduces infection into the urethra and bladder.

The inflammatory changes from chronic urethritis are chiefly limited to the posterior third of the urethra, the vesical outlet and the trigone, but may involve the whole urethra. The urethral mucosa has the appearance of granulation tissue when viewed through the panendoscope. Often small inflammatory polyps are encountered in the posterior urethra and surrounding the vesical neck. These areas bleed easily on instrumentation. Submucosal lymphangitis and in longstanding cases, periurethral fibrosis and narrowing of the urethral lumen and associated stricture, are common findings. The chronicity of the condition is enhanced by the presence of bacteria of low virulence in the urethral glands.

Folsom and others have reported cases of rather marked hyperplasia of the glandular elements in the posterior urethra of the female associated with obstructive symptoms where resection of this area was done and microscopic sections were indistinguishable from those of chronic prostatitis.

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[*] Read before the semi-annual meeting of the Delta Medical Society, Cleveland, Miss., October, 1952.

This symptom complex is protean in its manifestations and frequently flares up following pregnancy, a surgical procedure, or an illness which confines the patient to bed. The outstanding symptoms are produced by bladder irritability and referred pain. Frequency and urgency are the most common symptoms, at times to the point of incontinence, nocturia, burning, hematuria usually at the end of the act and a feeling of not having emptied the bladder, are often complained of.

Pain in the suprapubic area, right and left lower quadrants, backache in lumbar or sacral area, vagina, vulva, groin and inner surface of thighs are areas in which pain is referred in a large number of cases. Folsom states "that any pain within two feet of the female urethra which does not seem to be adequately accounted for by some definite pathology, should be suspected of being due to the urethra". Thorough examination of the urethra is essential in the differential diagnosis when pelvic pain and backache are present. Dyspareunia and frigidity are not uncommon. A tender inflamed urethra logically would be painful on intercourse. These cases can often be relieved by treating the urethra, to the great appreciation of both husband and wife.

Acute exacerbation of this disorder may be accompanied by chills and fever or low grade fever, gross hematuria, and, at times, urinary retention. The duration of symptoms varies from a few weeks to years. It can often be dated from a pelvic or abdominal operation in which the bladder was allowed to become overdistended and frequent catheterization had to be done, or to a difficult delivery where trauma to the urethra occurred with subsequent retention of urine. A history of pelvic operation without relief of pain complained of before surgery should indicate investigation of the urethra as several cases have been completely relieved after the urethra had been adequately treated.

The diagnosis of chronic non-specific urethritis in the female is not difficult. It is suspected from the above described symptoms, in any case of lower abdominal or pelvic pain, or when the anterior vaginal vault is tender to bimanual examination. The urethra is abnormally sensitive on passage of a catheter and the patient will often say that the passage of the catheter reproduces the pain. A urine specimen is always collected by catheter and subjected to chemical and microscopic examination. In a large majority of cases the urine is entirely negative which accounts for the fact that in so many of these cases the diagnosis is missed. While the catheter is in place the bladder capacity is tested and the bladder irrigated with a non-irrigating antiseptic solution to safeguard against infection. The urethra and bladder are then examined with a panendoscope for any pathological changes. The proximal urethra and bladder neck presents an irregular, red, granular appearance. Often clear cysts or inflammatory polyps are seen at the vesical neck. Small openings of the infected ducts can be seen and the trigone usually presents the picture of chronic inflammatory disease. Congestted blood vessels accentuate the sharp lines of demarcation between the infected trigone and normal surrounding bladder mucosa. At times the urethra is small at site of stricture due to inflammatory induration and has to be dilated before the panendoscope can be inserted. With the cystoscope in place and the vaginal finger beneath it, the urethra can be felt to be thickened and tender. Upper urinary tract infections are eliminated by excretion urograms and urine specimens obtained from both kidneys. Stricture, diverticuli, are not uncommon findings. Several cases have been complicated by trichomonas infection and recently two cases of longstanding with persistent symptoms were found to harbor E histolytica in the urine sediment.

Treatment in most of these cases is rather simple and consists in the removal of local and distant causes of chronicity and relief of urinary stasis. Any chronic infection tends to recur unless the obstruction is located and corrected. The response to treatment is often dramatic. Dilatation of the urethra during diagnostic study with the cystocope is frequently followed by almost complete relief of symptoms within 24 to 48 hours. Once the diagnosis is established the treatment consists of gradual dilatation with sounds or bougies and instillation of 5% argyrol or 1% silver nitrate into the urethra. One begins with a sound that the urethra will comfortably accomodate, usually a 24 or 26 French. The object is to stretch the urethra and not to tear it. Dilatations are given at intervals of five to seven days and repeated until the urethra will comfortably accomodate a 30 to 32 French sound. Dilatation of this type irons out the folds of the urethra, giving better drainage of the paraurethral glands, stimulates the circulation and promotes healing. In six to eight weeks the great majority, 90 to 95 per cent, of cases will obtain almost complete relief. A few cases of marked hyperplasia or polyp at the vesical orifice may require direct application of stronger silver nitrate or possibly light fulguration to an occasional inflammatory polyp. The bladder is irrigated and distended in cases where the capacity has been diminished by long continued urgency and frequency of urination, but is not essential in most cases. Small doses of belladonna and phenobarbital are given to allay frequency until response to the treatment is obtained. Small doses of gantrisin, 0.5 gram four times a day, often aids in clearing up the infection. It is important to eliminate distant foci of infection which are often the cause of chronicity, such as upper urinary tract infections, chronic vaginitis, or cervicitis. Several cases of empyema of the cervical stump or stricture of the cervix following cauterization or radiation of obstructed infected cervical glands have seemed to be the foci of infection. In an occasional case an infected urethral diverticulum will have to be removed surgically before cure is obtained.

If a good response to treatment is not obtained, it is probable that chronic urethritis is not the basis of the patient's complaint, and the whole urinary tract should be reevaluated.

SUMMARY

The existence of chronic non-specific urethritis in women is much more prevalent than is generally recognized and many young women have grown into adulthood and old age with bladder trouble because the entity has been overlooked. The symptoms have too often been attributed to upper urinary tract disease and the patient subjected to elaborate upper urinary tract investigation and prolonged treatment on numerous occasions when the real trouble was chronic urethritis.

The symptom complex of bladder irritability and referred pain, although variable in its manifestation, is explained by the same basic pathologic features of chronic inflammatory change in the posterior urethra and vesical neck.

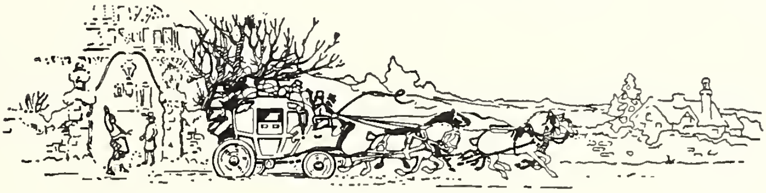
The diagnosis is made by direct observation with the cystoscope and elimination of upper urinary tract as a causative factor.

Treatment is simple, consisting of dilatation of the urethra with local applications. The response is gratifying.

A plea is made for awareness and recognition of this very common disease.

§

Merry Christmas



NEW DEPARTMENT

The *Mississippi Doctor* will inaugurate a new department, beginning in the January issue, called "New Drugs, New Devices, New Digests." The subject is intended to encompass all that is new in therapy, instruments, research, and the department will be open to all our readers and advertisers. If it's new — from that product upon which millions have been spent to prove its merits, to the little office method of relieving a minor ailment; from the expensive installation, to the simple dressing; from Dr. Scudder of Mayersville to Dr. Lahey of Boston—the department invites your contribution!

Fifty Year Club Biographica

FIVE THOUSAND YEARS!

The membership of the Fifty Year Club of the State Medical Association, organized in 1944 by Dr. W. A. Evans of Aberdeen, now stands at one hundred. The combined service of the physicians who are members of the Club in Mississippi totals 5,000 years!

The following appears on the membership certificate award to each physician:

> "having served his neighbors and the people in his community faithfully and well and having brought honor to himself and the profession as a practitioner of Medicine for fifty years or more has accordingly had bestowed upon him Lifetime Membership in the Fifty Year Club of the Mississippi State Medical Association."

Beginning with this issue, we will carry a Fifty Year Section as part of the Journal. In presenting the biographies, no particular order will be followed inasmuch as it is necessary that we use whatever material is complete and available for publication at the time the Journal goes to press.

This is our tribute to each physician who has pioneered and made medical history. These medical heroes have made a vast contribution to the upbuilding of our state and in turn the nation.

The many humanitarian acts that have been done by these one hundred physicians will stand as a great living monument to their noble profession and unselfish service to their clientele.

These men reflected fine qualities of leadership in their respective communities.

JOSHUA RICE WILLIAMS

DR. WILLIAMS

On August 3, 1867, in Pontotoc County, Joshua Rice Williams, son of Oliver C. and Regina Ann Cockrell Williams, was born. His paternal grandfather, Thomas Hickman Williams, served in the United States Senate.

After attending the public schools in Pontotoc County, he received his medical degree from the University of Tennessee in 1894 and did graduate work at the University of Nashville, graduating in 1896 and did special work in radiology in St. Louis, Chicago, New Orleans, Battle Creek and at the Mayo Clinic.

Following graduation, he practiced at Houlka, Van Vleet, and Houston. In 1923, he entered the field of radiology with offices in Houston.

Dr. Williams has served as president of the Four-County Medical Society and again when it became the Northeast Mississippi Thirteen Counties Medical Society. For many years, Doctor Williams served as county health officer.

Other offices held are: Member of the State Hospital Commission, speaker of the House of Delegates of the Mississippi State Medical Association, member Board of Trustees of Insane Hospital, and member, Law Committee of the State Hospital Association.

In community activities, Doctor Williams has served as president of the Board of Trustees of Houston Public Schools for a quarter of a century, past-president of the Exchange Club, member of the Chamber of Commerce, member of the Commission that built the first good roads in and around Houston and installed the first telephone exchange in Houston. An elder in the Presbyterian Church, he is author of treatises on the Lord's Supper and Baptism.

Doctor Williams has also been active in fraternal fields and in addition to serving as Grand Master of Grand Lodge of Mississippi, he is author of Masonic Digest of Laws for Mississippi and also author of Digest of Laws and Instruction Book for the Eastern Star of Mississippi.

On January 25, 1948, Doctor Williams was awarded the Fifty-Year Certificate with lifetime membership in the State Medical Association.

In the field of human endeavor, Doctor Williams has wrought exceedingly well claiming many honors for himself and at the same time honoring the profession.

§

JAMES WALTON LIPSCOMB, SR.

DR. LIPSCOMB

James Walton Lipscomb was born in Columbus, Mississippi, August 27, 1868. His father was Dr. William Lowndes Lipscomb and his mother was Tallulah Harris Lipscomb. Doctor Lipscomb followed in his father's and grandfather's footsteps, in practicing medicine in Columbus, and later his son, Dr. James Walton Lipscomb, Jr., also practiced medicine in Columbus.

After graduation from Mississippi A. and M. College (now Mississippi State College), Doctor Lipscomb attended Vanderbilt University and received his medical degree in 1890. He has done postgraduate work in New Orleans, Baltimore, Chicago, and at the Polyclinic in New York City. His first years in the practice of medicine were spent at Glendora, but soon thereafter he located in Columbus. For twelve years, he served as Lowndes County health officer. For twenty-five years, he taught a bible class at the Central Methodist Church.

In community life, Doctor Lipscomb was an active participant. He served on the board of trustees of the city schools, and also as president of the Chamber of Commerce. He is a charter member of the Rotary Club.

Doctor Lipscomb served as a member of the State Board of Health from 1924 until 1944 and as president from 1930 until 1944. During these years, many worthwhile accomplishments for the Board were recorded.

Doctor Lipscomb also served as vice-president of the State Medical Association and also of his county medical society.

On April 25, 1948, Doctor Lipscomb was honored with lifetime membership in the Fifty-Year Club of the State Medical Association.

Humanitarian service that has been rendered by the Lipscomb family for generations is truly exemplified in the service rendered to his fellowman by James Walton Lipscomb.

§

WALTER HOWARD SCUDDER

DR. SCUDDER

In Woodville (Wilkinson County), Mississippi, on September 18, 1861, Walter Howard Scudder, son of James Blair and Celeste Embree Scudder, was born.

As a very small child, he saw "Confederates in action." It is significant, also, that Doctor Scudder was the last Surgeon General of the United Confederate Veterans. In 1890, he became United States Examining Surgeon for the Pension Department.

Doctor Scudder attended the first public school in Issaquena County. In 1887, he graduated from the Louisville Medical College of Louisville, Kentucky, and won the Gold Medal of the class in Practice of Medicine. That same year, he began practicing medicine in Issaquena County and continued in this location for more than sixty years. (For many years, he was the only physician practicing in this county.)

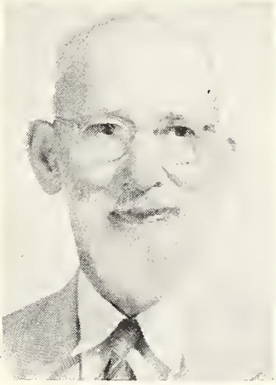
Throughout the years, Doctor Scudder has been an active participant in progress. As a licensed civil engineer, he helped build many of the roads in Issaquena County. Indicative of his wide field of interest is the fact that Doctor Scudder was also a licensed veterinarian. For twenty-five years he served as county health officer.

Since 1892, Doctor Scudder has been a member of the State Medical Association and on December 14, 1948, the Association betowed upon him lifetime membership in the Fifty-Year Club of the Association. At this time, he is the oldest living member of the Club.

Doctor Scudder has served his fellowman faithfully and has brought honor to himself and the profession throughout his long and distinguished career of service in Mississippi.

§

WILLIAM LEE LITTLE


DR. LITTLE

On August 28, 1868, William Lee Little was born in Copiah County, Mississippi.

After graduation from Tulane Medical School in 1889, Doctor Little began practicing medicine in Wesson in October, 1889.

In 1902, Doctor Little was appointed local surgeon for the Illinois Central Railroad. On June 26, 1952, he received, in Chicago, a gold plaque honoring his fifty years of service. From 1908 until 1912, Doctor Little served as a member of the State Board of Health and in 1910 attended one of the first hookworm conventions in Richmond, Virginia, as a representative of the State Board of Health. For twelve years, Doctor Little served as part-time county health officer of Copiah County.

He is a charter member of the Tri-County Medical Society, organized about 1900, and later served as its president and as president of the State Medical Association in 1937. In 1948, Doctor Little was again honored by being elected the most outstanding country doctor for Mississippi by the State Medical Association.

Active in community life throughout the years, in 1900 Doctor Little served as secretary of the school board and assisted in sponsoring a bond issue for road improvement. Also, he served as chairman of the board of deacons and director of the Wesson Baptist Church for fifteen years. For many years, he was chairman of the Wesson Board of Trade. He is an honorary charter member of the Lions Club.

Since 1915, when Copiah-Lincoln College was

September 24, 1951 and on October 21, 1951 he was made a lifetime member of the Fifty-Year Club of the State Medical Association.

Still active in the practice of medicine, Doctor McKinnon continues to "serve his neighbors and the people in his community faithfully and well" and he has brought honor to himself and the profession as a practitioner of medicine.

—————§—————

THOMAS MELVILLE DYE

DR. DYE

The son of Reverend Thomas Wesley and Ellen Dye, Thomas Melville Dye was born September 5, 1874, in DeSoto County, Mississippi.

After graduation from Millsaps College and later Tulane Medical School in 1900, Doctor Dye practiced in Rankin County for six years and then in Coahoma County continuously since that time.

Doctor Dye served as president of the State Medical Association and at the time of his retirement as secretary of the State Medical Association, after having served for thirty-five years, the following tribute was paid to him:

> "The resignation and retirement from office in the Mississippi State Medical Association of Thomas Melville Dye as secretary writes the conclusion to a brilliant chapter in the annals of the Association and organized medicine in Mississippi. The substance of this chapter is service; its narrative is gentleness flowing from a moral strength divinely bestowed but carried with humility; it is phrased with warmth and kindness, punctuated with courage and determination . . .
>
> "Dr. Dye's fruitful years of service reflect with accuracy his fruitful life. For more than a half century he has continued to dedicate himself to our noble and honorable profession. Measuring his success in terms of love and friendship, he is outstanding among men . . . "

On June 19, 1949, the State Medical Association honored Doctor Dye with lifetime membership in the Fifty-Year Club.

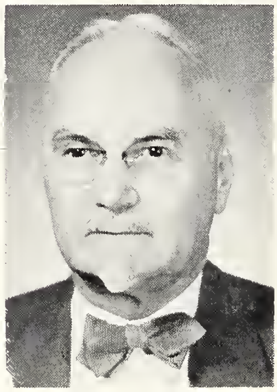
Perhaps no physician has served the Association for such a long period of time. Doctor Dye will long be remembered for the contribution he has made in this field of service as well as for his service to humanity which continues to be his life's dedication.

organized, Doctor Little has served as college physician.

On June 13, 1948, Doctor Little received lifetime membership in the Fifty-Year Club of the State Medical Association for having served his fellowman faithfully and well for many, many years.

—————§—————

HUGH LAWSON McKINNON



DR. McKINNON

On April 23, 1878, Hugh Lawson McKinnon was born in Hattiesburg, Mississippi. After attending the University of the South, he graduated from Memphis Hospital Medical College, (University of Tennessee) in 1901 and following this did postgraduate work at Johns Hopkins, New York Postgraduate School, and Tulane Graduate School of Medicine.

Doctor McKinnon served as President of the South Mississippi Medical Society (of which he was organizer), and also the Forrest County Medical Society. He also served as President of the Kiwanis Club.

He served as superintendent of Ellisville State School for three years; as physician to Mississippi Southern College for nine years. He also served as surgeon for the Gulf and Ship Island Railroad and acting chief surgeon for the Mississippi Central Railroad. In the United States Medical Corps during World War I he served as captain and also as acting assistant surgeon of the United States Public Health Service with the rank of captain. For twenty-five years, Doctor McKinnon has taught obstetrics to nurses at Methodist Hospital and South Mississippi Infirmary. He has served as an officer in the Presbyterian Church for many years.

On January 1, 1936, he became a member of the State Board of Health and served until January 1, 1942, and was again appointed in 1947 for a six-year term.

At the present time, Doctor McKinnon serves as local examiner for the United States Civil Service Commission, examining physician for the Railroad Retirement Board and local surgeon for the Illinois Central Railroad. He also is a staff member at the South Mississippi Infirmary and the Forrest County General Hospital and is visiting physician at the Methodist Hospital, Hattiesburg.

Doctor McKinnon was awarded the Golden Service certificate of the University of Tennessee,

THE MISSISSIPPI DOCTOR

The journal with a vision which encourages a plan of delivering modern medicine to the masses at less cost to the individual and more profit to the practitioner. It champions the community hospital, the hub around which this service must be built.

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Editorials

LICENSING OF NURSING AND CONVALESCENT HOMES FOR THE AGED AND INFIRM

(Guest Editorial)

State Medical Journal (*Mississippi Doctor*)
Felix J. Underwood, State Health Officer
Jackson, Miss.

House Bill 382, Act 505 of the 1952 Mississippi Legislature, requires the State Board of Health to establish rules, regulations, and minimum standards for the conduct of Homes for the Aged or Infirm, including Nursing and Convalescent Homes. With the increasing number of people in the upper age groups, homes of this type are likely to be more in demand in the years to come than in the past.

The U. S. census of 1940 shows that there were 115,418 Mississippians past 65 years of age that year. By 1950, this number had increased to 152,964. This is an increase of 37,526 people, or 32 per cent, in 10 years. During the 20 year period from 1930 to 1950, the proportion of the population in the old age group was doubled.

Though statistics on amount of morbidity in any community or age group are meager, it has been estimated that the age group over 65 years requires twice as much medical care as the same number of people in the general population. This idea is not at all difficult to accept in view of the fact that 40 per cent of the non-white deaths and 54 per cent of the white deaths during 1951 in this state occurred among persons 65 years of age and over.

The five leading causes of death in this age group were as follows: heart diseases, vascular lesions, malignant neoplasms, pneumonia and influenza, and chronic and unspecified nephritis and other renal sclerosis. Deaths from these causes, preceded as they frequently are by months and years of chronic illness, testify to the need of thousands of elderly people for long periods of special care and attention, but not necessarily hospitalization.

Although the nursing and convalescent homes are not primarily for the purpose of medical service, they provide the care many of these feeble and chronically ill patients need. It is no small item that these homes, in providing suitable quarters and care for the elderly, make more hospital beds available for the acutely ill.

Regulation and certification of the homes should help to insure good food, nursing care, sanitation, safety, and supervision. Between 20 and 25 of these nursing and convalescent homes have already been inspected and licensed in Mississippi. More will doubtless be opening in future months. These homes can help considerably in providing solutions for the many problems associated with old age.

§

AS OTHERS SEE IT

(We copy the following from the West Virginia Medical Journal, of which Dr. Walter E. Vest, our good friend, is editor.)

It always makes a doctor feel better when his profession gets an encouraging pat on the back from a layman, and especially from a member of another learned profession. Accordingly, our ego was inflated when we read recently in The Richmond Times-Dispatch an editorial displaying an excellent lay understanding of some of the public relations aspects of medicine. We do not know the author but assume it was Mr. Virginius Dabney, one of the most brilliant editors of the South.

The editorial is so understanding and so much at variance from the medical economic caterwauls which have emanated from Washington in recent years that we reproduce it entirely:

> An interesting and important development in the field of doctor-patient relations during the past few years has been the establishment of grievance committees in state and local medical societies.
>
> A report recently issued shows that such committees have now been set up in every state society and in 1,958 local medical groups, including the Richmond Academy of Medicine.
>
> Until about 1950, in most sections of the country the patient who felt he had a justifiable grievance against a doctor had recourse only to the courts. Malpractice suits increased tenfold between 1930 and 1940.
>
> In December, 1949, the House of Delegates of the American Medical Association adopted a resolution calling on local doctors' groups to establish committees to handle patients' grievances and thus to serve somewhat as a mediation board between the patient and the doctor.
>
> "The problem," said the AMA, "is not simply one of disciplining members . . . but is one of improving relations with the public . . . so the profession itself may continue in the confidence of the American people."
>
> The Richmond Academy's grievance committee has received only two formal complaints in recent months. In one instance the controversy was over which of two doctors, associated together in the same office, should have handled a certain case; in the other instance, the question had to do with which person in a certain family was responsible for a particular medical bill.
>
> Establishment of grievance committees is one of several recent moves on the part of doctors' organizations to improve their public relations.
>
> Another has been the setting up of definite plans to assure that persons who need doctors for emergency calls during the night are able to obtain them. The Richmond plan is handled through the Doctors' Exchange, which has a list of physicians available for night calls.
>
> Leaders in medical organizations have shown a keen awareness in recent years of their public relations problems, and have encouraged the taking of steps to meet criticisms from patients. In this way, they are creating a better understanding between the profession and the public.

§

A Fact Book on Aging, compiled by the Committee on Aging and Geriatrics of the Federal Security Agency, reveals that as of early 1952 there were 13,000,000 men and women 65 years of age and over in the United States and that this number is increasing at the rate of about 400,000 a year. Stating that aging is becoming a major problem to the nation as a whole, the book provides background information on the characteristics of the aging population of the United States — their health, work capacities, living habits, and needs. It may be obtained from the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.

CLARKSDALE OPENS NEW HOSPITAL

On Sunday, November 23, the New Coahoma County one-hundred-bed hospital was dedicated with a fine program, with Governor Hugh White as the chief speaker of the occasion.

The following are some statements made by Governor White: "You will find this institution the last word in hospital construction and in hospital improvement. It is a part of the hospital program of this state. Mississippi was the first state in the union to take advantage of the Hill-Burton program passed by the Congress of the United States, and your hospital is the thirty-ninth to be built under this program in our state. There are eight other hospitals now under construction. Twenty-eight health units have been built over the state also. You can see the progress we have made. We have many health problems in our state as well as other problems, some of them that are alarming. It was said a few years ago that our hospital at Whitfield was large enough to take care of the state of New York. But this insitution is full and the institution at Meridian is full. And then go down to Ellisville and see the crying need for this institution. The five state-owned charity hospitals are full to capacity. There is no greater need than for the people of the state to recognize their responsibility for the health of the people.

"We have a great State Board of Health trying to stamp out disease before the patient has to go to the hospital. From across the nation comes the report that our state is making the greatest progress in public health.

"In just a few days we will dedicate the beginning of another great institution for our state, the four-year medical school to be built in Jackson. In connection with this school a three-hundred-bed hospital will be constructed. The law requires that one half the beds be used for those who are unable to care for themselves.

"I am proud to say to the people of Coahoma County this afternoon that it is my honest and sincere judgment that your state is making more progress toward the care of the people in Mississippi than any other state in the Union. Your legislature has not failed to recognize their responsibility to the people of Mississippi. A program such as you have here will do much to assist the state in caring for the sick people of Mississippi.

"Remember, friends, after the dedication, this is your institution, and it is your responsibility to uphold the hands of those who try to make it a success. Praise those who make the sacrifice and carry much of the responsibility. Do your best, fellow citizens, to make your hospital function in the very best way. I am delighted and happy to have had a few words to say to you on this occasion".

OAHOMA COUNTY HOSPITAL

After the address of the Governor, Mr. Foster Fowler, executive secretary of the Mississippi Commission on Hospital Care, reviewed the progress of hospital construction in the state.

Hon. J. Lake Roberson, attorney for the board of supervisors, summarized the history of the hospital, giving credit to whom credit was due.

The hospital is well located on a nice plot of land just outside the city of Clarksdale, sometimes referred to as Mississippi's only little metropolis.

The one-hundred-bed hospital appears to be the very last word in every respect. A three-story building, it answers a longstanding need for this Delta county.

The medical staff includes Dr. T. G. Hughes, president, Dr. E. L. Wilkins, vice-president, Dr. Durward Blakey, secretary, Mr. Reed B. Hogan, administrator, Mr. William G. Montgomery, business manager, and Mrs. Alma S. Foulks, director of nursing.

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STORY OF DR. CRISLER'S LIFE

In the Sunday, November 23, edition of the *Commercial Appeal*, there was a most interesting story of the late Dr. J. A. Crisler written by his daughter, Mrs. D. Hurd Hudson of Arlington, Va. This story is to appear in the *Reader's Digest* of January, 1953. Scores of doctors no doubt have read this story with great interest. Dr. Crisler was a native of Mississippi and loved by doctors over the entire state. Dr. G. S. Bryan is mentioned in the story.

"There was healing in his hands
And humanity in his heart"

Nothing more fitting could be said about Dr. Crisler. Surely no one had surgical ability better balanced with heart power. He drank deeply from the fountain of human philosophy. He ever kept in mind the person as well as the disease for which he operated. Another line in his daughter's summary is characteristic of his daily living: "If people would only lavish on the living the tenderness they feel for the dead." It was good to know the kind heart in this able and versatile man.

When we think of Dr. J. A. Crisler we immediately think of his pal in Mississippi who has also gone to his reward, Dr. John Darrington of Yazoo City. These two men were much alike in many ways. They were able surgeons, broadly educated, outstanding orators in the medical profession, kind friends, good citizens, and lovers of humanity.

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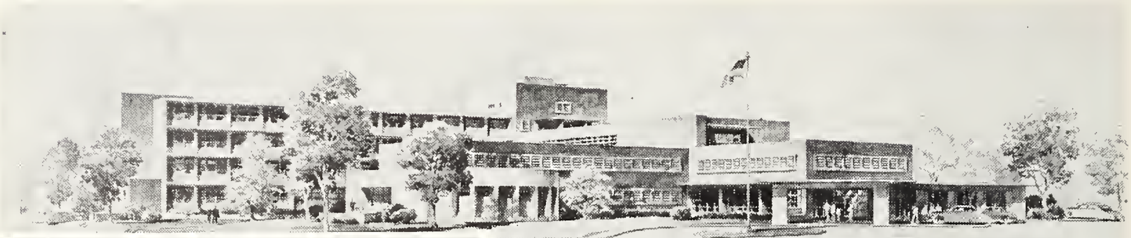
PAN-PACIFIC SURGICAL CONGRESS

The executive office of the Pan-Pacific Surgical Association announces that the sixth Pan-Pacific Surgical Congress will be held in Honolulu in November, 1954.

Included in the scientific program will be sessions in all divisions of surgery and related fields, with papers presented by topflight surgeons from the Pacific Area countries.

For further information concerning the Sixth Congress or membership in the Association, doctors may write to the Pan-Pacific Surgical Association, Suite 7, Young Building, Honolulu, Hawaii.



LE BONHEUR CHILDREN'S HOSPITAL
J. FRAZER SMITH, INC. ARCHITECTS

CHIEF OF STAFF — Dr. Frank Thomas Mitchell, veteran Memphis specialist in children's diseases, heads the medical staff at the new Le Bonheur Children's Hospital.

Appointed chief of the new hospital's medical staff on July 12, 1951, he played an important part in the institution's design.

DR. TOM MITCHELL, HOSPITAL'S CHIEF, HAS TOP RECORD

His name is listed in the medical directories as Dr. Frank Thomas Mitchell, but two generations of Memphis parents whose children he has treated in his long career as a pediatric specialist know him best as Dr. Tom Mitchell.

That's Dr. Mitchell, chief of the medical staff at the Le Bonheur Children's Hospital.

A veteran of 35 years of professional experience and a nationally known authority on child care, Dr. Mitchell also is professor of pediatrics at the University of Tennessee's College of Medicine here. He has practiced as a specialist in Memphis since his graduation from this college in 1917.

Dr. Mitchell is a past president of the Tennessee State Pediatric Society and a member of numerous professional organizations, including the American Academy of Pediatrics, the American Medical Association, the Tennessee State Medical Association and the Memphis and Shelby County Medical Society.

He also is pediatric consultant to the Mississippi State Board of Health.

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QUESTIONNAIRE ON LE BONHEUR CHILDREN'S HOSPITAL

1. When was the Le Bonheur Children's Hospital founded? Charter was granted by the State of Tennessee, November 8, 1949.
2. What person or persons were chiefly responsible for its founding? A group of approximately 250 women who are members of the Le Bonheur Club.
3. How did the hospital come to be designed around the philosophy of the mother and child staying together? Even before any sketches were drawn by the architect, it was agreed by the Le Bonheur Club Members and the Pediatric Society of Memphis that this hospital would not only permit but welcome the mother staying with her sick child.
4. When was this technique inaugurated? This was inaugurated on June 23, 1952.
5. Please list some of the benefits you believe have been derived from this technique?
    (a.) We believe that the patient will recover more rapidly with the mother being present.
    (b.) The mother can assist with the nursing of her child, therefore, benefit the hospital by making fewer nurses necessary.
    (c.) We believe the mental strain to be less on the mother if she is permitted to be with the sick child.
    (d.) A warm human atmosphere is better obtained for the hospital as a whole and the public relations aspects are enhanced.
    (e.) Nurses have an opportunity to learn from mothers and mothers learn from

nurses which means a teaching program in the prevention of disease.

6. When was this present hospital completed? June 14, 1952.
7. Please list its facilities (number of operating rooms, scrub rooms, wards, private rooms, solaria, kitchens, offices, etc.)
    - Operating rooms—two major—two minor
    - Cystoscopic room
    - Fracture room
    - Wards—3, each containing 3 beds
    - Double rooms—31
    - Private rooms—16
    - X-Ray—2 conventional x-ray diagnostic rooms on 2nd floor and 1 x-ray unit (3rd floor) to be used principally with head x-ray in connection with neurosurgery
    - Kitchens—1 main kitchen with 1 floor pantry on each of the first 3 floors and a formula kitchen on 4th floor to feed infants.
    - In addition to all of the administrative offices, we have approximately 5,000 sq. ft. we are renting for doctors' offices (all space rented)
    - Isolation—10 beds—5 bassinets
    - Parents' rooms—4, each adjoining patient's room
    - Total Bed Capacity—126 (including bassinets)
    - An amphitheater which seats 140 people to be used in teaching, health meetings, hospital meetings or any other meetings in connection with health needs of this area.
    - A pediatric research department operated jointly by the University of Tennessee Department of Pediatrics and the Le Bonheur Children's Hospital.
8. What special facilities does this hospital have which most children's hospitals do not have?
    A play room for the ambulatory patients which opens onto a patio.
    Out-patient department, the emergency department, surgery and each patient room is piped for both oxygen and vacuum.
    The hospital is air-conditioned throughout with each patient room thermostatically controlled.
    A pneumatic tube system which connects all of the vital points of the hospital
    A public drug store and a snack bar owned and operated by the hospital.
9. How many operations are performed here annually?
10. How many in-patients are treated?
11. How many out-patients?
12. How great an area does this hospital serve? The hospital does not have any boundary lines to limit its service.
13. Please give a brief explanation of the hospital's method of patient admittance and its manner of support. Are only charity patients treated? Are pay, part-pay and charity patients all treated? What per cent of patients are charity, what per cent pay? From what sources are funds for the hospiatl's support obtained? Patients are admitted only by a doctor who is on our medical staff. The hospital is to be supported by income from private patients, gifts, donations and funds raised by the Le Bonheur Club. This is not a charity hospital and our patients are made up of three categories: full-pay, part-pay and a small per cent of charity patients. Percentages of the three cannot be determined as yet because we have been receiving patients only since June 23, 1952.
14. By what type of organizational set-up is Le Bonheur managed? How does this function? The hospital is a voluntary non-profit organization governed by a Board of Directors made up of 24 members, 8 of whom are women. Their terms of office are for 3 years and are so staggered that 8 are re-elected or replaced each year. The Board of Directors selects the administrator who is responsible to the Board of Directors for the overall administration. The medical staff is organized in keeping with the American College of Surgeons' recommendations.

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The following letter is not only appreciated by the editor and his wife, but they are passing it on that Dr. Dicks' long-time friends over the state may hear from him too. Dr. Dicks, formerly of Natchez, is a prince in the profession.

FROM A FORMER MISSISSIPPIAN AND FIFTY-YEAR ELIGIBLE

87 Columbia Heights
Apartment 22
Brooklyn 2, New York
November 4, 1952

Dear Dr. and Mrs. Anderson;

I appreciate more than I can express to you in mere words your generosity, courtesy, and kindness in extending to me the great favor of receiving complimentary the *Mississippi Doctor*, and being grouped with so many of my dear friends now associated in the Fifty-Year Club.

I always anticipate each month the arrival of my copy of the journal. It is always filled with the latest and best professional information, and the latest news activities of the doctors in Mississippi, my most cherished friends. Separated as I am from my doctor friends in the dear old state of Mississippi, and unable to share fraternal associations with them, the *Mississippi Doctor* keeps me in touch with them.

At this time I am concluding a visit with my daughter and her husband who live here in Brooklyn, and will return to my other daughter's home in Swarthmore, Pennsylvania, in about two weeks. My health has improved very much, although my doctor insists that I continue treatment and curtail my activities in order to prevent a return of the illness from which I suffered the past few years.

Expressing my sincere thanks, I send kind regards and best wishes.

Sincerely,
J. W. D. Dicks, M.D.

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THE NEW ORLEANS GRADUATE MEDICAL ASSEMBLY

The sixteenth annual meeting of the New Orleans Graduate Medical Assembly will be held March 2-5, headquarters at the Municipal Auditorium.

Eighteen outstanding guest speakers will participate and their presentations will be of interest to both specialists and general practitioners. In addition, the program will include a symposium on "The Value of Newer Drugs", daily demonstrations of medical and surgical procedures in color television, clinicopathologic conferences, medical motion pictures, over 100 technical exhibits and three roundtable luncheons.

The Assembly has planned another interesting postclinical tour to follow the 1953 meeting in New Orleans. On Saturday, March 7, a party composed of doctors and their families will leave New York for Europe on the great new superliner, S. S. United States. The itinerary includes England, France, Switzerland and Italy, and arrangements have been made for medical programs in these countries. The tour ends in Rome and the group will return to New York on March 31 by Pan American World Airways, President Special.

Details of the New Orleans meeting and the postclinical tour are available at the office of the Assembly, Room 103, 1430 Tulane Avenue, New Orleans 12, Louisiana.

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HEART ASSOCIATION MEETS

Dr. Joseph P. Melvin Elevated to Presidency

At the second annual meeting of the Mississippi Heart Association, presided over by Dr. T. E. Wilson, president, on December 5 at the Heidelberg Hotel, Dr. Arthur Guyton of the University of Mississippi brought the highlight address of the meeting. Presenting research studies conducted the past several months at the University on the heart, Dr. Guyton used illustrative slides for a graphic and informative treatment of the subject.

The president reported on the work that has been done this year putting on a campaign for funds during the month of February and setting up a permanent office for the Association. He also made recommendations and suggestions for the future of the organization which will be considered by the board of directors.

Dr. Joseph P. Melvin, Jr., president-elect, told of the overall Association plans for 1953, with special emphasis to the annual fund-raising campaign to be made in February. He announced that twenty counties have been organized into campaign units, and goals have been accepted in the amount of $70,000.

Dr. Frank Hutton, Hinds County chairman, gave a report of the work he has done in organizing his county for the campaign, making workable suggestions which may be employed in other counties. Mr. Ross R. Barnett, state campaign chairman, was unable to attend the meeting.

The report of the nominating committee was accepted, with the following officers for 1953 unanimously elected: Dr. Joseph P. Melvin, Jr., Jackson, president; Dr. Arthur Guyton, Oxford, vice-president; Dr. John G. Archer, Greenville, secretary; Mr. Orrin Swayze, Jackson, treasurer; and Dr. W. K. Purks, Vicksburg, president-elect.

Prior to the meeting the board of directors held a dinner meeting on December 5th when Dr. H. S. Mayerson of Tulane University spoke on the research work that is being done there. In his talk he brought out forcibly why money is needed for research.

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Our Christmas Wish

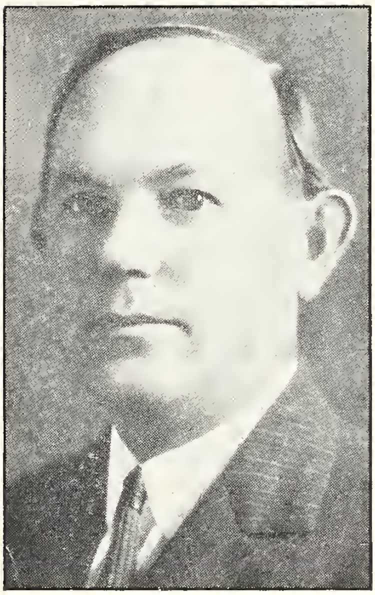
Your skill has helped to give
The priceless gift—
The gift of added years
To man's life-span.
It is a privilege to send
Our best wishes—
To tell you we are happy
To have been a part
Of this magnificent contribution.

To you and your family
A joyous holiday!
Happiness and good health
All through the year.

The Mississippi Doctor

CHARTER MEMBERS

DR. JERE CROOK
Jackson, Tenn.



DR. W. W. CRAWFORD
Hattiesburg, Miss.

Here we have the only two doctors who participated in the organization of the Southern Medical Association, forty-six years ago at Chattanooga, Tennessee. Dr. Jere Crook of Jackson, Tennessee, a regular attendant through the years, was at the recent meeting at Miami, Fla. Dr. Crook, outstanding in general surgery and general practice for more than fifty years, has been no less active in organized medicine in and out of season. He is a past president of the Southern Medical Association, the Mid-South Postgraduate Assembly and of the Tennessee State Medical Association. His lay activities have claimed no less from him as a citizen in his community. And in all of his affiliations his friends count him one of the ablest of orators, in or out of the profession.

Dr. W. W. Crawford, charter member of the Southern Medical Association, is also a past president of the organization with almost a hundred per cent attendance record. Past president of the Mississippi State Medical Association and a member of the Fifty-Year Club in Mississippi, Dr. Crawford has been consistently active in organized medicine. Now retired, he holds an enviable record as a surgeon, has enjoyed a reputation for many years as a man of outstanding ability in medicine, crowned with genuine medical integrity.

The Southern Medical Association acknowledges its debt to Drs. Crawford and Crook for beneficent guidance and encouragement through the years. No two are more endeared to Southern than these.

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SIXTIETH WEDDING

Dr. and Mrs. W. L. Little as they received in their home on September 25 celebrating their sixtieth wedding anniversary.

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CLARKSDALE AND SIX COUNTIES MEDICAL SOCIETY

The 101st Semi-Annual Session of the Clarksdale and Six Counties Medical Society was held in Clarksdale on November 12. Highlights of the session were the business and scientific programs, election of 1953 officers, Auxiliary program, and banquet.

The meeting was opened at 4:00 p.m. by Dr. R. H. F. Lynch, president, of Marks. During the immediately ensuing business session Dr. Lacey

Biles, Sumner, was named president. Dr. Biles' father, a much loved late society member, was president twenty years ago.

Dr. Durward L. Blakey, Clarksdale, was unanimously renamed secretary.

Vice-presidents for counties elected were Dr. L. B. Austin, Rosedale, Bolivar; Dr. D. H. Raney, Mattson, Coahoma; Dr. L. H. Brevard, Marks, Quitman; Dr. J. G. Backstrom, Tutwiler, Tallahatchie; and Dr. H. G. Johnson, Dundee, Tunica. Members of the board of censors are Drs. T. M. Dye, T. G. Hughes, and E. LeRoy Wilkins, all of Clarksdale.

About fifty physicians were in attendance. Guests were Dr. M. Q. Ewing, president-elect, Mississippi State Medical Association, Amory, who addressed the society; Dr. C. W. Patterson, First District Councillor, Rosedale; and Rowland B. Kennedy, Mississippi State Medical Association Executive Secretary, Jackson.

During the banquet at the Hotel Alcazar in the evening, the physicians and their ladies heard an address by Dr. Henry B. Gotten, president of the Memphis and Shelby County Medical Society.

Members of the Auxiliary met during the afternoon at the Clarksdale Country Club. Mrs. R. H. F. Lynch, Marks, president, conducted the interesting meeting. Miss Helen A. Sugg, Station WROX, Clarksdale, was guest speaker. Mrs. Lacey Biles, Sumner, was elected 1953 president.

The scientific session featured three outstanding papers. Dr. John W. McCall, Memphis, gave a paper entitled "Gall Bladder Disease"; Dr. Hal S. Tackett, Department of Medicine, University of Tennessee, "Recent Advances in Cardiology"; Dr. Henry Boswell, Sanatorium, "Recent Advances in Management of Tuberculosis".

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PLASTIC SURGICAL DRESSING

Headquarters Air Research and development Command, P. O. Box 1395 Baltimore 3, Maryland, announces an experimental "spray on" plastic surgical dressing, developed by the United States Air Force for possible emergency use in case of atomic attack, or other large-scale disasters, which may prove effective for general use in treatment of many types of surgical wounds.

The transparent plastic dressing, or "aeroplast", is applied directly to burned or injured areas of the body from an aerosol-type, pressurized container and provides instant protection. In tests conducted so far gauze bandage dressings were unnecessary when this plastic is used.

U. S. Air Force medical officers recently completed an eight-week program testing the dressing on many types of injuries and surgical cases. It is planned to conduct further tests in hospitals throughout the United States to determine if the new dressing is suitable for standard usage. As a result of earlier tests, AF doctors believe "aeroplast" may be effective clinically as a general surgical dressing.

"Aeroplast" has many possible advantages over gauze dressings, including timesaving in application, transparency to permit easy inspection of the wound, and ease in removing or changing dressing. It can be applied to parts of the body poorly adapted to gauze dressings.

Additional, important possible advantages, especially in the event of large-scale disasters, are: the dressing can be applied quickly and efficiently by a relatively untrained person, is less expensive than gauze, is portable, and great quantities of the plastic can be stored indefinitely in a minimum of space. Ordinary gauze dressings require considerable storage space and must be resterilized periodically.

These advantages have also led to the belief that "areoplast" may be utilized in front-line and other combat areas where quick protection is desired for wounds prior to patients being evacuated for hospital care.

A project of the Air Force's Research and Development Command, "aeroplast" was developed by Captain Daniel S. J. Choy, USAF Medical Corps, the Aero Medical Laboratory, Wright Air Development Center, Dayton, Ohio. Capt. Choy was named project officer in August, 1951 when ARDC authorized the Aero Medical Laboratory to use its facilities to develop such a dressing.

With the assistance of Protective Treatments, Inc., of Dayton, Ohio, a suitable modified vinyl plastic was developed under an Air Force research contract. The plastic met fully the requirements set up by the Air Force covering impermeability to bacteria, transparency, elasticity and flexibility, ease of application, and stability in storage.

When "aeroplast" is applied to a wound, it is sprayed over the affected part to a thickness of approximately five thousandths of an inch. During healing, the wound can be inspected at a glance. If necessary, the plastic can be peeled off intact without injuring the wound and a new coating applied quickly. "Aeroplast" adheres only to dry, healthy skin areas.

The plastic dressing will not halt an infection already present in a wound, but will prevent infection of a wound that is cleansed before its application.

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RESEARCH GRANTS

In 1953 financial assistance will be available for study and research pertaining to the causes and abnormalities of the heart and blood vessels, and in their treatment. Inquiries are invited. Mississippi Heart Association, 133 South Lamar Street, Jackson, Mississippi. 7-3t

CHICAGO MEDICAL SOCIETY CLINICAL CONFERENCE

March 3, 1953, will mark the opening day of the ninth annual Clinical Conference of the Chicago Medical Society. This Conference is designed to be of interest to both the specialist and the general practitioner. It will be held at the Palmer House in Chicago and will present a variety of subjects setting forth the latest information available to the medical profession.

Conducting the Conference will be a faculty ranging from 35 to 40 outstanding speakers each offering a presentation relating to their specialty. In addition another group will give daily teaching demonstrations which will include the presentation of patients. They will emphasize the actual technique to be employed in handling orthopedic, medical and pediatric problems. In addition to holding these demonstrations each day, there will be a panel discussion at a round table luncheon presenting topics of timely interest.

Those who are not members of the Chicago Medical Society are asked to register for the four days at the normal fee of $5.00.

This is the time to set up your arrangements so these four days in March will permit you to come to the Palmer House and not only visit with physicians from all sections of the United States and Canada but likewise hear and see the latest developments in modern medicine.

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MID-SOUTH POSTGRADUATE MEDICAL ASSEMBLY

LIST OF EXHIBITORS

Abbott Laboratories, North Chicago, Illinois
A. S. Aloe Company, St. Louis, Missouri
Ames Company, Inc., Elkhart, Indiana
Ayerst, McKenna & Harrison, Ltd., New York, N. Y.
Bilhuber-Knoll Corporation, Orange, New Jersey
Brayten Pharmaceutical Company, Chattanooga, Tenn.
Brown & Williamson Tobacco Corp., Louisville, Ky.
Burroughs Wellcome & Co. (U.S.A.) Inc., Tuckahoe, N. Y.
Central Surgical Company, Inc., Little Rock, Ark.
Chicago Pharmacal Company, Chicago, Illinois
Delta Surgical, Inc., Memphis, Tenn.
The Dick X-Ray Company, Memphis, Tenn.
H. G. Fischer & Company, Franklin Park, Ill.
Flint, Eaton & Company, Franklin Park, Ill.
Flint, Eaton & Company, Decatur, Ill.
General Electric Company, X-Ray Dept., Memphis, Tenn.
Gerber Products Company, Fremont, Michigan
H. J. Heinz Company, Pittsburgh, Pa.
Hoffmann-LaRoche, Inc., Nutley, N. J.
Holland-Rantos Co., Inc., New, York, N. Y.
Irwin, Neisler & Company, Decatur, Ill.
Kay Surgical, Inc., Memphis, Tenn.
Lederle Laboratories Div., American Cyanamid Co., New York, N. Y.
Eli Lilly and Company, Indianapolis, Indiana
J. B. Lippincott Company, Philadelphia, Pa.
P. Lorillard Company, Inc., New York, N. Y.
M & R Laboratories, Columbus, Ohio
J. A. Majors Company, New Orleans, La.
Mead Johnson & Company, Evansville, Indiana
Memphis Limb & Brace Company, Memphis, Tenn.
The Mennen Company, Newark, N. J.
The Wm. S. Merrell Company, Cincinnati, Ohio
Mid-South Medical Gases, Inc., Memphis, Tenn.
Philip Morris & Co. Ltd., Inc., New York, N. Y.
The National Drug Company, Philadelphia, Pa.
Ortho Pharmaceutical Corporation, Raritan, N. J.
Parke, Davis & Company, Detroit, Michigan
Pet Milk Company, St. Louis, Missouri
Chas. Pfizer & Co., Inc., Brooklyn, N. Y.
A. H. Robins Company, Inc., Richmond, Virginia
Sandoz Chemical Works, Inc., New York, N. Y.
Schering Corporation, Bloomfield, New Jersey
Sharp & Dohme, Inc., Philadelphia, Pa.
Southern Surgical Supply Co., Memphis, Tenn.
E. R. Squibb & Sons, New York, N. Y.
Wm. T. Stover Co., Inc., Little Rock, Ark.
The Stuart Company, Chicago, Ill.
Tablerock Laboratories, Inc., Greenville, S.C.
Frederick Trout Co., Inc., Altanta, Georgia
The Upjohn Company, Kalamazoo, Michigan
U. S. Vitamin Corporation, New York, N. Y.
The Warren-Teed Products Company, Columbus, Ohio
White Laboratories, Inc., Kenilworth, New Jersey
Winthrop-Stearns Inc., New York, N. Y.
Wyeth Incorporated, Philadelphia, Pa.

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BOOK REVIEW

The autobiography of Dr. William Sharpe, *Brain Surgeon*, published by the Viking Press, New York, is a most thrilling and inspiring story of a brain surgeon who saved lives and touched human hearts. This book is a frank story of a man in America who marched from the bottom to the top, pushing difficulties aside as he came to them. Tutoring slothful students brought him an adequate income while in college.

Dr. Sharpe had his trials under Dr. Harvey Cushing at Johns Hopkins. His unsolicited fee of $50,000 from the first president of the Chinese Republic for operating on his son is a well-told and thrilling experience. He takes a broad view in handling human ills and seems sure that medicine and surgery do not always do the whole job.

The author's outstanding work has been his fight against spastic paralysis and hydrocephalus. The march of brain surgery in this field as practiced and depicted by Dr. Sharpe should be read by every doctor in the practice of medicine. A person full of humanity, humility, and a fine sense of humor, his story is impelling, fascinating.

Dr. Sharpe is director of neurosurgery, Manhattan General Hospital, N. Y., and honorary member of the Tri-State Medical Society, North Carolina, South Carolina and Virginia, and a life fellow in the American College of Surgeons.

The price of *Brain Surgeon* is $3.75.

DEATHS

DR. H. P. SMITH

Dr. Henry Pinkney Smith, 78, died in Hattiesburg at Methodist Hospital after a lengthy illness.

Dr. Smith, born at Linton, Miss., in Clarke County, was educated in the public schools of that county, and later taught school there.

He was graduated from the Mobile Medical College of the University of Alabama with honors in 1906 and was licensed to practice medicine that same year.

He also did postgraduate work in Cooke County hospital in Chicago.

He began practice of medicine at McDonald's Mill, now known as Runnelstown, and in 1907 moved to New Augusta, where he practiced until his health forced retirement in 1942.

He came to Hattiesburg seven years ago.

Dr. Smith was active in civic and social work throughout his long career. He was a member of the South Mississippi Medical Society, the Mississippi Medical Ass'n., the American Medical Ass'n., a member of the school board of New Augusta, steward in the New Augusta Methodist Church, a Mason and member of the New Augusta Lodge, a Shriner, and a member of the Hattiesburg chapter of Sons of the American Revolution.

Survivors include his widow; three sons, Dr. Prentiss E. Smith, Dr. Hobart A. Smith, and Burnace W. Smith, all of Hattiesburg, and three brothers and a sister.

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DR. J. N. LAMAR

Services were conducted November 18 from the Salem Methodist church near Bruce for Dr. J. N. Lamar, prominent retired Calhoun County physician, who died at the home of his daughter, Mrs. L. G. Adams, there. He was 90.

Dr. Lamar, a lifelong citizen of the county, taught in the schools of the county early in life, later studying medicine at the University of Ohio. He graduated from Nashville University, Nashville, Tenn., in 1900. He practiced medicine at Banner, Miss., for 40 years, moving to Bruce in 1930 and practicing here until his health forced him to retire.

He was a member of the Methodist church and active in its work and in school and civic affairs.

In addition to his daughter, he also leaves a son Mell Lamar of Grenada and five grandchildren.

§

DR. T. D. HOUSTON

Dr. T. D. Houston, 71, beloved Chickasaw County physician for 44 years, died at the hospital in Houston following an illness of several months. He had practiced in Mantee, Woodland and Montpelier, residing in Montpelier the last 25 years. Dr. Houston was graduated from the University of Nashville, Nashville, Tenn., in 1906. He was licensed to practice in Mississippi in 1924.

Survivors include his wife, two daughters, Mrs. William E. Coyle, Amory, and Mrs. Robert E. Evans, Tupelo; and a son, James G. Houston of Montpelier.

§

DR. FRED L. RICKS

Dr. Fred Lee Ricks of Clarksdale, Miss., a physician who practiced for 30 years in the Drew, Miss., area until his retirement a year ago, died November 19 at Kennedy Veterans Hospital in Memphis. He was 65.

Services were held at the First Baptist Church at Drew, with burial in the Drew Cemetery.

Born at Ackerman, Miss., Dr. Ricks received his medical training at what is now the University of Tennessee College of Medicine at Memphis. During World War I, he served 23 months overseas as a captain in the Army Medical Corps, winning the British Military Cross for his services with the 47th London Division, an English unit. He also was awarded the Purple Heart.

He leaves his wife, Mrs. Ethel Ramsey Ricks of Clarksdale; two brothers, Albert Ricks of Clarksdale and Roy Ricks of Mayfield, Ky., and a sister, Mrs. Lessie Parsons of Little Rock.

§

DR. N. L. NASH

Services for Dr. N. L. Nash, prominent retired physician of Tupelo, were conducted November 20 from Pegues Funeral Home with Dr. Jeff Cunningham, pastor of the First Methodist Church, officiating.

Dr. Nash died at his home on Gloster Street of a stroke, following an extended illness.

Born in 1884 near Amory, Dr. Nash received his degree in medicine from the University of Tennessee and his degree in surgery from Northwestern University in Chicago. He was recognized as an authority on diagnosis.

For several years Dr. Nash practiced medicine at Belden before moving to Tupelo 31 years ago. Due to ill health he was forced to retire from active practice a few years ago. He was the owner of extensive farm land and property in this area, and his last years were spent in looking after these interests.

Dr. Nash leaves his wife, the former Miss Sally Thompson; a daughter, Mrs. Billy Baker of Woodstock, Ill.; a son, Wright Nash of Tupelo, by his first marriage to Miss Mary Wright of Sherman; two brothers, W. J. Nash of Amory and Paul Nash of Tupelo; one sister, Mrs. A. J. Land of Hamilton; and four grandchildren.

§

ANNOUNCEMENT

Dr. D. W. Hamrick and Dr. Lee L. Hasseltine announce the formation of a partnership for the practice of ophthalmology and otolaryngology at the Hamrick Clinic, Corinth, Miss.

§

FOR SALE

Portable Picker X-Ray Machine (Army type) previously used by Gulfport Naval Hospital. Tube, stand, transformer and controls in excellent condition and ready for use. This is a 60 MA machine and this type was used extensively overseas. Price $1000. Also three practically new casettes, wall type casette holder, film hangers, drying rack, five-gallon size developing tank with stand, timer and dark room light together with lead lined pass box for storing films for $250.00 additional. Write: 932 North State Street, Phone 3-6391, Jackson, Miss.

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MISSISSIPPI STATE MEDICAL ASSOCIATION

EIGHTY-FIFTH ANNUAL MEETING
BILOXI - MAY 12, 13, 14, 1953
House of Delegates Meets May 11, 1953

INTERPRETING MEDICAL LITERATURE

STAFF OF REVIEW
Dermatology—James G. Thompson, Jackson
Otolaryngology—Charles R. Hume
Opthalmology—Eddley Jones, Vicksburg
Obstetrics and Gynecology—J. F. Lucas, Greenwood
Orthopedics—Thomas H. Blake, Jackson
Public Health—Felix J. Underwood, Jackson
Pediatrics—Harvey F. Garrison, Jackson
Radiology and Roentgenology—Karl O. Stingily, Meridian
V. A. Pathology—H. N. Naumann, Jackson
Surgery—W. H. Parsons, Vicksburg
Urology—Temple Ainsworth, Jackson

PEDIATRICS

Resistance to Corticotropin, Cortisone, and Folic Acid Antagonists in Leukemia. Elizabeth M. Kingsley Pillers, Joseph H. Burchenal, Leonard P. Eliel, and Olaf H. Pearson, Memorial Hospital, New York, N. Y. — J.A.M.A. 148:987-94, March 22, 1952.

Sixteen children with acute leukemia were treated with corticotropin or cortisone after no further improvement could be obtained by antifolic therapy. Ten of these had a good clinical and hematologic response. One patient had a partial response. Two died during treatment from cerebrovascular accident, but showed significantly increased erythropoiesis in the bone marrow before death. Three showed no response. This high percentage suggests that corticotropin (ACTH) and Cortisone have a different primary mode of action on the leukemic process from that of the folic acid antagonists. Ten of these patients were again given amethopterin following hormone therapy. In only two of these did remissions develop after the episodes of toxicity.

Conversely, 6 children with acute leukemia were treated with amethopterin after no further improvement could be obtained after initial hormone therapy. Of these, 3 patients had a good clinical and hematological response. One had a partial response. Two showed no satisfactory response. Metabolic studies on several patients during a second course of corticotropin therapy showed that during this second course there was a sharp rise in urinary excretion of formaldehydogenic steroids and a moderate rise in ketosteroid excretion, indicative that treatment induced an increase in adrenocortical activity. Failure to obtain a remission evidently was not due to lack of response of the adrenal cortex, but rather to the presumption that the leukemic cells had become resistant to the effects of the increased adrenal cortical function.

These observations indicate that hormones or folic acid antagonists are effective in producing further remissions in approximately 50 per cent of patients showing resistance to one type of therapy. Although the remissions resulting from hormone treatment and the folic acid antagonists develop along similar lines, these drugs probably act through quite different mechanisms.

COMMENT: This a very interesting article for several reasons, the first of which is that at the present time there is no known cure for leukemia, so that it is certainly worthwhile to try anything that may help in its treatment. Since it is supposed to be of advantage, we would suggest that we give it a try.

VA CLINICAL PATHOLOGICAL CONFERENCE

August 21, 1952, 1:00 p.m.

HISTORY: Pt., a 40 year old, colored handyman, entered the VA Hospital, Jackson, Mississippi, because of headache and dizziness, for which he had been admitted shortly before in another hospital. The history of headache, dizziness and high blood pressure dated back 8 years when he was treated twice in military hospitals. The headache was bilateral, temporal and throbbing, mostly at night forcing him to sit up, occasionally in the daytime when he had to interrupt his work such as lawn mowing to rest in the shade. There has been also dizziness but no vertigo. During the past several months prior to admission he had nocturia once nightly and during the past year he had slight epistaxis producing small blood crusts on blowing his nose. No signs and symptoms were present referable to his heart, kidneys, eyes or ears. During his 4¾ years in the army he served as cook and orderly and later worked as cook on a river boat gaining about 40 lbs. which he lost again after giving up this occupation. In recent years, he was employed as handyman by a doctor's family and has been treated with rice diet, low sodium diet and various medications. Past diseases include measles and typhoid during childhood, gonorrhea, syphilis and a broken thumb during army service and a broken leg while in his teens.

PHYSICAL EXAMINATION: Well developed, slender, intelligent negro with somewhat prominent eyes and quick movements. Pulse: 7, strong, thrusting; BP 250/150 bilateral; T 99.4° - Heart: A_2 greater than P_2. - Fundoscopy: narrowing of retinal arteries, increased AV nicking and small scar in right fundus. PE otherwise negative.

LABORATORY DATA:
4/10 CBC Hb: 11 gms. 69%; WBC 8,000; P 68%; L 29%; M 1%; E 2%. - Kahn: neg.
4/11 BUN 26, Bl. Sug. 80.
4/15 Cholesterol: total 323, esters 73% of total.
4/21 Urine: pale, acid, 1003, Alb. plus; 5-10 WBC, 1-3 RBC.
4/22 Urine: straw clear, acid, 1004, Alb. 3 plus; 4-5 WBC, and mucus.
4/23 Urine: straw clear, acid, 1011, Alb. 4 plus; 6-8 WBC, several hyaline and granular casts.
4/28 CBC: Hb. 9.5 gms. 60%; RBC 3,000,000; WBC 14,000; P 86%; L 14%. - Sed. rate 20; hematocrit 30.
4/30 BUN 91; creatinine 6.7.
5/2 Spinal fluid: cells 3; ottal protein 28. - BUN 100; creatinine 8.6.
5/5 BUN 111; creatinine 14.8.
5/6 BUN 125; creatinine 10.8. - CBC Hb. 12 gms. 75%; RBC 3,940,000; WBC 13,600; P 80%; Band 4%; myelocyte 1%; L 13%; E 1%; B 1%. - Sed. rate 28; hematocrit 32.

5/7 BUN 130; creatinine 12.4; CO$_2$ 46% — 21 m. eq. HCO$_3$ per liter.
5/9 BUN 144; creatinine 18.9; CO$_2$ 42% — 18.9 m. eq. HCO$_3$ per lit. Serum chloride 510 mg. % NaCl — 87.2 m. eq. Cl per lit.
5/15 BUN 160; creatinine 17.2; CO$_2$ 32% — 14 m. eq. HCO$_3$ per lit. Serum Chloride 601 mg. % NaCl — 102 m. eq. Cl per lit.
5/14 BUN 181; creatinine 18.8; CO$_2$ 42% — 19 m. eq. HCO$_3$ per lit. Serum Chloride 504 mg. % NaCl — 86 m. eq. Cl per lit. - CBC: Hb. 11 gms. 69%; RBC 3,420,000.
5/16 BUN 153; creatinine 18.9; CO$_2$ 44% — 19.8 m. eq. HCO$_3$ per lit. Serum chloride 516 mg. % NaCl — 88.3 m. eq. Cl per lit.
5/21 BUN 125; creatinine 19; CO$_2$ 38% — 17 m. eq. HCO$_3$ per lit. Serum chloride 601 mg. % NaCl — 102 m. eq. Cl per lit.
5/23 BUN 150; creatinine 19; CO$_2$ 38% — 17 m. eq. HCO$_3$ per lit. Serum chloride 550 mg. % NaCl — 94 m. eq. Cl per lit.
5/26 CO$_2$ 32% — 14 m. eq. HCO$_3$ per lit; serum chloride 539 mg. % NaCl — 92 m. eq. Cl per lit.
5/27 CBC: Hb 7.5 gm. 47%.
5/28 BUN 181; creatinine 25; CO$_2$ 22% — 9 m. eq. HCO$_3$ per lit. Serum chloride 630 mg. % NaCl — 107 m. eq. Cl per lit.
5/30 BUN 181; creatinine 26; CO$_2$ 52% — 23 m. eq. HCO$_3$ per lit. Serum chloride 333 mg. % NaCl — 58 m. eq. Cl per lit.
6/2 BUN 248; creatinine 30; CO$_2$ 22% — 9 m. eq. HCO$_3$ per lit. Serum chloride 345 mg. % NaCl — 59 m. eq. Cl per lit.

X-ray 4/10 Chest: slight left ventricular enlargement; lung fields clear.

EKG 4/10 abnormal record suggestive of LVE and myocardial change. Eye consultation 5/6: hypertensive retinopathy, Gr. III. ENT consultation on 4/29 because of epistaxis revealed evidence of recent hemorrhage from anterior portion of septum bilaterally.

COURSE: Pt. was placed on ½ gram salt diet and daily BP reading declined somewhat after 3 weeks from 210-260 over 140-160 to 170-200 over 110-130. A benzodioxane test was negative for pheochromocytoma. Lumbar sympathectomy was advised but refused by pt. who was treated with amytal, demerol and phenobarbital, and 5 transfusions for his anemia. After 2-3 weeks there was mild nose bleeds, soreness in throat and neck, abdominal tenderness, nausea, vomiting and some disorientation. Because of his severe headaches a spinal puncture was done and clear fluid obtained which in supine position had a pressure beginning at 332 mm. water falling to 110 mm. After the puncture the headache was somewhat relieved. The abdominal tenderness without mass or rigidity, nausea and vomiting increased steadily with the azotemia which rose to 248 mg. % BUN and 30 mg. % creatinine. The acidosis was moderately severe with CO$_2$ values reaching 22% and terminally a marked drop of serum chlorides occurred to a level of 333 mg. % NaCl — 59 m. eq. Cl per lit. On 6/3 pt. lapsed into coma and died soon after on the 55th hospital day.

ABSTRACT OF DISCUSSION

Dr. S. L. Stephenson considered the clinical signs of headache, hypertension, retinopathy and hematuria consistent with nephrosclerosis, chronic glomerulo-nephritis or chronic pyelonephritis, the end stages of all of which may be difficult to differentiate. The marked proteinuria, however, did not conform to this general picture. Apparently the patient died in uremia and the final drop of plasma chloride may be explained on the basis of renal failure. Dr. W. Boggan thought that the possibility of polycystic kidney had to be considered in an individual 30-40 years of age although no positive evidence was available such as masses or a suggestive pyelogram. Dr. J. F. Busey reminded that coarctation of aorta as cause of hypertension could not be ruled out if blood pressure readings are taken on the upper extremities only. The low plasma chlorides did not conform to a low salt syndrome since edema and oliguria were absent. Dr. H. N. Naumann referred to a recent paper by D. P. Baumann (Am. J. Cl. Path. 22:616, 1952) to explain the chloride drop as possibly due to a vicious cycle initiated by low salt diet imposing a severe strain on tubular reabsorption of a damaged kidney and causing depletion of sodium and chloride with subsequent dehydration and azotemia. Dr. J. V. Cockrell warned not to over-estimate the benefits of sympathectomy which may relieve symptoms but not prolong life.

ANATOMICAL DIAGNOSIS

(H. N. Naumann, M.D.)

1. Cerebral hemorrhage, right hemisphere, recent, massive.
2. Nephrosclerosis, malignant; mucosal hemorrhages; uremia.
3. Cardiac hypertrophy; coronary sclerosis, moderate.

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DID YOU KNOW . . . in ten years the cost of medical care has not risen nearly as much as the cost of living . . cost of living . . up 60%; hospital bills . . up 67%; cost of prescriptions . . up 37%; doctors' bills . . up 38% . . . 16% of the nation's families have 61% of the children . . 2 million children live with neither parent and of these about ¼ live in institution and ¼ live in foster homes. . . . FSA estimates that at the start of 1952 about one in four persons 65 or over had protection against cost of hospital care through Blue Cross or some other health plan . . the corresponding ratio in the general population was a little over 1 in 2. . . . The National Safety Council says that accidents cost over $21,000,000 a day last year . . $550,000,000 for medical fees and hospital expenses for entire year. . . .

Woman's Auxiliary

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AUXILIARY PLEDGE

"I pledge my loyalty and devotion to the Womans' Auxiliary to the American Medical Association. I will support its activities, protect its reputation and ever sustain its high ideals."

MRS. STANLEY A. HILL PRESIDENT-ELECT OF SMA AUXILIARY

Mississippians who attended the Southern Medical Association in Miami, Fla., shared with pride the honor which came to Mrs. Stanley A. Hill of Corinth, in being chosen president-elect of the Southern Medical Auxiliary.

Mrs. Hill, active in medical auxiliary work since her marriage to one of the state's promising young doctors several years ago, has made a consistent contribution to her local, district and state organizations, as well as to the Southern Medical Auxiliary. In addition to minor posts in all of these groups, she has been president of the Alcorn County Unit, the Northeast Mississippi Auxiliary, and the Auxiliary to the Mississippi State Medical Association. In the S.M.A. she has been historian, secretary-treasurer, Doctor's Day chairman, and first vice-president.

Poised, capable, and worthy of the mantle which will fall upon her shoulders when she succeeds Mrs. H. K. Stover of Miami, Fla., to the presidency, Mrs. Hill has the hearty cooperation of members of the Mississippi organization.

Mississippians who attended the Southern Medical included: Mrs. W. H. Anderson of Booneville; Mrs. Lamar Arrington, Mrs. M. L. Flynt, and Mrs. Guy T. Vise of Meridian; Mrs. S. L. Bailey of Kosciusko; Mrs. J. P. Culpepper, Mrs. Harry G. Fridge, and Mrs. R. E. Schwartz of Hattiesburg; Mrs. C. H. Cleveland of Gulfport; Mrs. B. L. Crawford of Tylertown; Mrs. Burton Friedman of Wesson; Mrs. Harvey F. Garrison, Mrs. T. D. Labecki, Mrs. George W. Owen, Mrs. E. L. Posey, Jr.; Mrs. G. W. F. Rembert, all of Jackson; Mrs. Stanley A. Hill of Corinth; Mrs. W. N. Jenkins of Port Gibson; Mrs. Thomas L. Moore, Jr., of McComb; Mrs. W. K. Purks of Vicksburg; and Mrs. Charles C. Thompson, Jr., of Columbia.

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TO CHICAGO

Members of the Woman's Auxiliary to the Mississippi State Medical Association were prominently represented at the Presidents Conference in Chicago on November 6-7. Our charming president, Mrs. Richard Clark, from Hattiesburg, spoke on a panel, subject, "Membership Interest and How to Stimulate It". Mrs. S. L. Bailey, our president-elect, from Kosciusko, was also on hand to support Mrs. Clark.

In addition to their travels afar, both Mrs. Clark and Mrs. Bailey have been graciously sharing their time with state members in Auxiliary work at home. Just previous to their Chicago trip, Mrs. Clark visited Vicksburg and Mrs. Bailey attended the North Central meeting at Durant.

MRS. CLARK ADDRESSES NORTHEAST AUXILIARY

Mrs. Richard Clark, president of the Auxiliary to the Mississippi State Medical Association, brought the members of the Northeast Mississippi Auxiliary an excellent and stimulating address at the quarterly meeting in Tupelo, December 9. The Tupelo doctors' wives were hostesses in the social hall of the First Presbyterian Church to the group gathered for the Christmas meeting, climaxing the year's activities.

Mrs. Clark's talk urged an interpretation of national objectivies in terms of local performance. "We can translate the aims and ideals of auxiliary activity which the national organization has set up into community programs that will be more effective on the home level. Public relations in Mississippi communities might not be treated in precisely the same way as in New York, but the task of interpreting the fine ideals of the profession is the same!" she urged.

Mrs. Clark urged participation in political life.

"We are now faced with the decision between an individual or a collectivist philosophy," she averred. "Our children might have been told in social science classrooms that the age of individualism is closing and a new age of collectivism is emerging. Regardless of how neutral the phrasing, it is the work of an educational plan for an American life different from that we have had, or would have. It would make groups rather than individuals the care of society," she concluded.

Mrs. Clark also emphasized the service an auxiliary may render by sponsoring a nurse scholarship or loan fund, even if it is only supplementary. The group may decide to donate to the state scholarship fund which supports a student nurse, or contribute to the American Education Foundation, which accepts donations earmarked for the education of a medical student in a designated medical school.

Specific aids to program promotion may be obtained in the form of radio broadcasts for use over local radio stations. "Write the Bureau and Health Education at the A. M. A. offices, 535 North Dearborn, Chicago, Ill.," said Mrs. Clark, and you will be sent a wealth of material and helps for lay presentation."

Following the business session, presided over by the president, Mrs. S. B. Platt of Columbus, members and guests were served tea from an exquisitely appointed holiday table. Traditional green and red were used in stylized appointments which reflected the gaiety and happiness of the Christmas season.

In the evening the doctors and their wives were entertained with the annual banquet at the Tupelo Hotel, given by Mr. and Mrs. P. K. Thomas of the TKE Drug Company.

PERSONALIA

Items of personal interest scattered about the state that trickle to our ears and typewriter go thusly—

In Meridian, we are welcoming Gus Rush III. Proud papa is Dr. Gus, president of the Mississippi Society of General Practice. The girls in the family, blond mother Virginia and the three daughters, still hold the majority.

Dr. and Mrs. Coleman Pickle of Kosciusko have a new son, Michael. Dr. Pickle is a relatively new addition to Kosciusko himself.

For Dr. and Mrs. H. S. Rayner from DeKalb, it's a beautiful new daughter, Liane.

Dr. and Mrs. B. Joseph Price of Meridian have a baby boy, Jack, which makes four for them.

And here are some more items from the Meridian area:

Dr. Theo F. Middleton of Meridian has been recalled to service and is stationed at the U. S. Naval Air Station at Millington, Tenn.

The H. Lowry Rushes' son, Dr. Lowry Rush, Jr., is now back at home in Meridian and a member of the East Mississippi Medical Society.

Dr. and Mrs. E. L. St. Germaine attended the American Academy of O. and O. in Chicago, returning via New York and Washington. Dr. and Mrs. James Lauderdale, Mim and Chee, attended the Pediatrics meeting in New York.

The grandson of Mrs. W. L. Slaughter, an Auxiliary councillor from Meridian, has been signally honored as finalist in the All-American Boy Contest sponsored by the Hollywood Bowl Center.

Dr. and Mrs. Edmond J. Daly from Philadelphia are now in Meridian. Dr. Daly is at the East Mississippi State Hospital.

The Hattiesburg area is getting a number of new medical families what with the big new Forrest County General Hospital opening there last July.

Among the new faces are Dr. and Mrs. Francis Conn and children, Ricky and Jeanie. Dr. Conn is a native of Crystal Springs and his resident work at Charity in New Orleans in orthopedic surgery.

Dr. and Mrs. James Dunagin and four children are among the newcomers. Dr. Dunagin has a pediatric clinic.

Dr. Duck, from Canada, has settled in Purvis, and is doing general practice.

Dr. and Mrs. Fred Tatum are expected in Hattiesburg in January, Dr. Tatum to practice internal medicine.

Faces missing in Hattiesburg are Dr. and Mrs. William Colmer. Dr. Colmer is now supporting the government at its request at the Naval Base in Pensacola. Mrs. Colmer has been serving this year as corresponding secretary for the State Auxiliary.

Gastro-Intestinal Bleeding in Pediatrics[*]

ALVYN W. WHITE, M.D.
Pensacola, Fla.

GASTRO-INTESTINAL bleeding is a common finding in pediatrics. It usually signifies a simple ailment but it may be a symptom of impending danger to the child's life.

A search for data in the literature concerning gastro-intestinal hemorrhage yields little. Most reports deal only with adults but the principles involved are essentially the same. Certain lesions causing gastro-intestinal bleeding in children are seldom present in adults. Conversely, some conditions seen in adults are seldom if ever found in the pediatrics age group.

There are many pathological lesions which cause bleeding in the gastro-intestinal tract. In some instances the hemorrhage is small but in others it may be profuse. The site of the lesion in some conditions may be confined to one particular section, in others it may involve the entire alimentary tract. Bleeding may be the result of some systemic condition or infection or it may be due to a primary lesion in the tract itself. Fortunately, in most cases the diagnosis as to the cause of this bleeding is reasonably easy but at times it may prove difficult and frustrating. If hemorrhage is small and the general condition of the patient is good, much time may be taken for a detailed study before arriving at a definite diagnosis. However, at other times when the hemorrhage is profuse, it may become an emergency. Depending on the cause of the hemorrhage, the treatment may be medical, surgical, or a combination of the two.

The symptoms of gastro-intestinal bleeding vary according to the site of the pathological lesion. At a recent clinical pathological conference held at Children's Memorial Hospital, Chicago, the alimentary tract was divided into three segments. The *upper segment* was that segment beginning at the pharynx and extending to the ligament of Treitz. The *middle segment* was that portion from the ligament of Treitz to the ileocecal valve and the *lower segment* from the ileocecal valve to the anus. For practical purposes, we may say that the symptoms of gastro-intestinal bleeding vary in these three sections. At times, however, the symptoms may encroach one on the other.

When bleeding is present from the upper gastro-intestinal tract, the vomiting of dark coffee ground material is usually the rule. However, the vomitus may contain frank blood or clots. Tarry stools are also present and may be the only symptom to suggest hemorrhage. It might be well to remember that although melena is a common finding, the passing of bright red blood by rectum may occur when bleeding from the upper segment is profuse and when peristalsis is active. There may be epigastric or substernal pain.

In the newborn period hematemesis and melena often occur with little significance. In the breast fed infant a fissured nipple is often the cause. At our Clinic we have often noted hematemesis in the newborn period at times associated with melena. These babies vomit forcefully or have frequent bowel movements. We feel that this bleeding may be a manifestation of a mild hemorrhage disease plus trauma. We have given Vitamin K in some of these cases but feel that it is of questionable value and that they will clear up spontaneously.

True hemorrhagic diseases of the newborn should also be considered as the cause of bleeding during this age group. Although this disease involves the upper section, the entire gastro-intestinal tract is usually included.

Among the other causes that can cause bleeding from this section in the newborn period are syphilis, sepsis, and probably erythroblastosis.

Acute gastritis is the most common cause of bleeding from the upper segment in our experience. This is usually associated with some acute infection or can follow the swallowing of some corrosive material, a common offender being lye.

Esophageal varices may cause bleeding from the upper tract. They are apparently rare. Ladd and Gross mentioned finding fourteen in reviewing the material at Children's Hospital in Boston. They are probably more frequent in adults. Usually these varices are associated with splenic enlargement as Banti's disease or some liver disease associated with portal obstruction. They may be congenital. They can usually be demonstrated by the endoscope or by x-ray examination.

Hemangiomas in this area should be mentioned. Ferguson and Hackworth reported one in 1947.

Peptic ulcers are uncommon in childhood but they do occur. They are probably more common than at one time thought. They have been described at all ages even in the newborn period. The symptoms are indefinite or unsuspecting and are usually found at autopsy. They have a marked tendency to perforate and bleed. Bloody stools and the vomiting of blood are usually the only

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[†] From the Department of Pediatrics, The Medical Center Clinic, Pensacola, Florida.

[*] Read before the Section on Pediatrics at the eighty-fourth annual session of the Mississippi State Medical Association, Jackson, Miss., May, 1952.

symptoms. In the older child the usual symptoms seen in the adult may be present. Repeated gastric upsets seen in childhood should make one suspicious of peptic ulcer. The diagnosis is usually made by x-ray.

The swallowing of a foreign body may cause bleeding from this or any segment. It is not an uncommon incident in childhood. It is hard to understand why hemorrhage from this cause is not more common. When swallowed, such objects as pins, needles, safety pins, etc., in the vast majority of cases pass through the gastro-intestinal tract with no discomfort or symptoms.

Among the other causes of bleeding which involve this and other sections may be mentioned blood dyscrasias and the prothrombin deficiencies either associated with acute infections or to certain drugs as aspirin, sulfonamides, etc. Although the vomiting and passing of blood by rectum are symptoms of gastro-intestinal bleeding, it can be caused by a lesion in the nasopharynx.

Bleeding from the middle segment — that segment from the ligament of Treitz to the ileocecal valve — is never accompanied by the vomiting of blood unless there is obstruction. Rectal bleeding from this segment may be salmon colored, dark, or in clots. It is more often intimately mixed with the bowel movement. Pain, if present, is usually colicky in nature and referred to the umbilicus.

Meckel's diverticulum is the most common cause of massive bleeding from this section. The cause of bleeding is ulceration in the diverticulum. Bleeding Meckel's is primarily a pediatric problem. In a series reported at The Childrens Hospital in Boston 80 per cent occurred under two years of age. Acute Meckel's without ulceration and with symptoms indistinguishable from acute appendicitis probably occur in the pediatrics age group. We have not seen one, however, at our Clinic. The tendency of the ulcers to bleed and perforate produce the signs and symptoms that point to their presence. The bleeding is usually changed and mixed with the stool intimately. It may be dark or if the bleeding is profuse it may be bright red or salmon colored. Bleeding may vary in amounts and extend over periods of weeks or months with intervals of freedom. It may occur suddenly in an amount sufficient to cause death or it may be in small amounts and continue over long periods producing the picture of secondary anemia. The bleeding may be associated with colicky pains often referred to the navel. Tenderness and rigidity are noticeably absent as well as any palpable mass. The sudden onset of bleeding with the passage of a currant jelly brick red blood or dark blood intimately mixed with the bowel movement is almost pathognomonic of Meckel's diverticulum with ulcer. According to Ladd and Gross, x-ray examinations are practically useless in attempting to visualize a Meckel's diverticulum. They state that only in one child did some of the barium collect in this area which presumably represented the pouch.

Intussusception is also a common cause of bleeding from this segment and may involve the lower section. It is probably the most common cause of acute intestinal obstruction in children. The etiology is unknown although one often finds

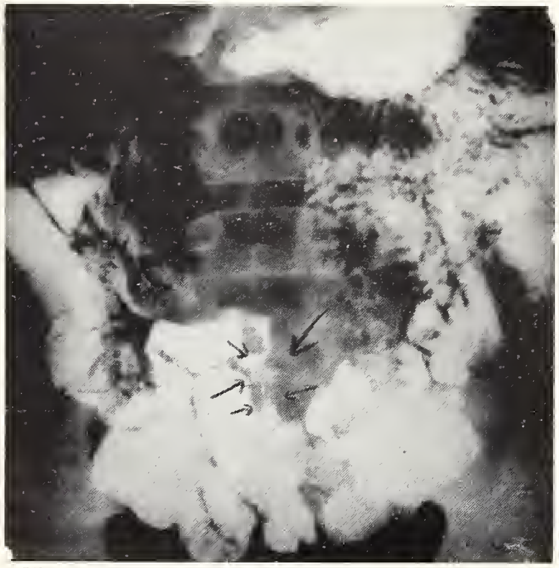

Fig. 1. Meckel's Diverticulum.

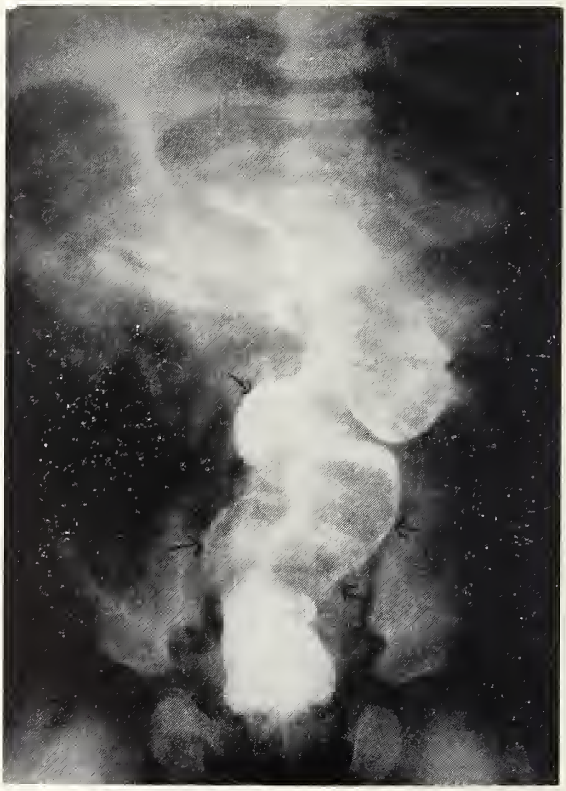

Fig. 2. Intussusception.

it associated with a Meckel's diverticulum or polyp. The age instance is important in that statistics show that the disease is confined to the most part in infants. About 80 per cent of the patients are under two years of age.

Intussusception may be classified into four types according to the point of origin:

1. Ileocecal — this is the most common type comprising about 50 per cent of the cases.
2. Ileocolic — this group comprises about 30 per cent of the cases.
3. Colic — this group comprises about 10 per cent of the cases.
4. Enteric — this group comprises about 10 per cent of the cases.

Retrograde intussusceptions occasionally occur.

Compound intussusceptions in which the single fold has again invaginated into the distal receiving part forming a so-called double intussusception are uncommon. Triple intussusceptions do occur but they are rare. Ladd and Gross reported the incidents of compound intussusceptions at 1 per cent. Boys are affected with intussusception in the proportion of three to one.

The onset of this condition is usually sudden with abdominal pain in a previously well male under two years of age. The attack usually lasts but a few minutes during which time the patient draws up his knees and screams with pain. The episode is repeated at short intervals. Vomiting may or may not occur and the bowels may be normal at the beginning. As the attack progresses the pain becomes more severe. At first the stools are fecal mixed but soon the passages consist of blood and mueus or merely blood tinged mucus. At the beginning there is no abdominal distention or rigidity. The tumor may be felt through the soft abdominal wall. It can better be felt during a spasm of pain during which time the mass becomes hard. This mass can usually be felt on rectal examination. At times, however, no mass is palpable but the rectum may have an empty roomy feeling due to the extreme straining and tenesmus. On withdrawing the finger from the anal ring, a little spurt or dribble of blood stained mucus resembling currant jelly usually occurs and the same material will be present on the finger of the examining glove. The importance of this currant jelly mucus should be emphasized as it is a definite diagnostic sign of intussusception.

The following is a case history of a somewhat unusual intussusception which we have seen recently:

A three months old *female* infant was seen in our Clinic with the chief complaint of abdominal pain and vomiting which started suddenly that day. She had been previously well and in good health. Physical examination revealed negative findings. She seemed in no apparent pain. Her temperature was 99 rectally. A tentative diagnosis of acute enteritis was made and the mother was told to report her progress later in the day. Late that afternoon, the patient vomited again and had two loose bowel movements both of which contained a small amount of blood. It was suggested that she be hospitalized for observation. There was no change in her physical examination on admission but during the early part of the night she had another bowel movement which contained some bloody mucus. She rested reasonably well but was fussy at times. When seen in the morning, the picture had completely changed. She was now passing bright red blood with mucus by rectum, vomiting had recurred, and colicky pains were now present. The abdomen was slightly distended, somewhat tense, and painful. The temperature was 101 rectally. She appeared toxic and listless. Rectal examination revealed a reasonably large mass on the left side. A diagnosis of acute intestinal obstruction due to intussusception was made. A barium enema was requested following which the infant was prepared for surgery at which time a triple intussusception was found. Fortunately, the intussusception could be reduced and she went on to an uneventful recovery.

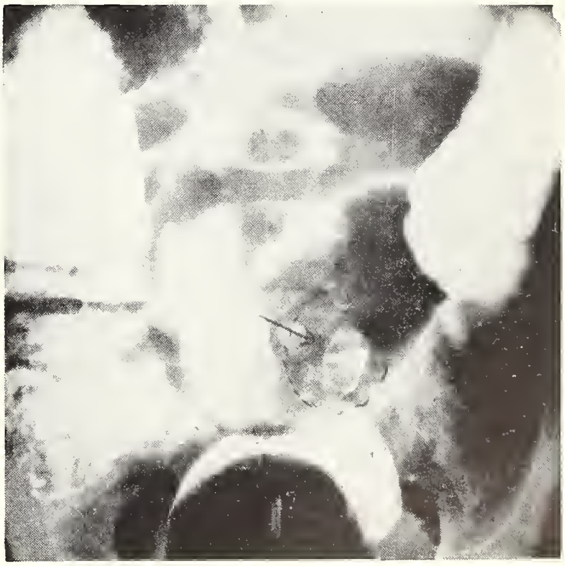

Fig. 3 Rectal Polyp

Hemangiomas rarely are found in the alimentary tract. If present they usually occur in the small intestines. Jeffrey, Dockerty, Clagett reviewed the literature in 1949 and were able to find 36 cases of single hemangiomatous tumors of the gastro-intestinal tract. They added 14 cases from the Mayo Clinic, 8 of the 14 lesions were in the small intestine—all were discovered at autopsy. Multiple hemangiomas do occur.

The symptoms are usually those found in a secondary anemia not amenable to iron or transfusion. The finding of occult blood in the stool is usually the only suggestive symptom.

The following case report typifies the usual findings of hemangiomas of the small bowel. It also presents some interesting findings which one should always bear in mind in dealing with gastrointestinal hemorrhage.

A ten year old female was seen at our Clinic with the chief complaint of pallor, weakness, and loss of appetite beginning three months ago. She had been treated for hypochromic anemia with iron but with no results. She was referred to a hematologist where a complete blood examination including marrow punctures, etc., was done, all of which sustained the diagnosis of hypochromic anemia. She was given blood transfusions, iron was continued, and she returned home. Six weeks later her original complaints returned at which time she was seen by us. The general physical examination was negative except for her pallor. There was no history of vomiting, fever, abdominal pain, or the passage of blood either by vomiting or by rectum. Her bleeding and coagulation time were well within normal limits as were her platelets and prothrombin time. Her blood count showed marked hyperchromic anemia that she had 2.8 million red blood cells, 40 per cent or 5.6 gm hemoglobin. Her stool examination was reported positive for hookworms, heavy infection. In view of the other negative findings, we felt that a diagnosis of hookworms would account for her present condition. She was transfused, treated for hookworms, and discharged home with instructions to return in two weeks. She returned with no complaint, her color was good, and she was progressing well. A month later she returned again at which time her pallor, weakness, etc., had returned. Careful questioning at this time revealed that although there was no blood in her bowels they occasionally looked dark and tarry. Repeated stool examinations for occult blood were positive. She was re-admitted where blood examinations, a G. I. series, barium enema, and endoscopic examination were done and reported negative. In view of her past history and our findings, we felt that the cause of gastro-intestinal bleeding was unusual. We therefore suggested surgical exploration feeling that the diagnosis of a hemangioma of the small bowel was likely. This was refused by the family but she was taken elsewhere where surgical exploration was performed at which time a hemangioma of the mid-segment was found. This case demonstrates that two etiological factors may be present at the same time. It further suggests that any secondary anemia that cannot be accounted for and does not respond to the usual treatment should be subjected to a thorough gastro-intestinal investigation. As has been proved many times in our experience, the finding of hookworms on stool examination does not always account for the symptoms at hand.

Other causes of bleeding in this area are duplication of the alimentary canal, mesenteric thrombosis, gastroenteritis, tumors, tuberculosis, and regional enteritis.

In bleeding from the lower segment, one would expect bright red blood separate from the feces. However, clots and dark blood may occur if the bleeding is high. Pain is seldom, if ever, present in bleeding from this segment.

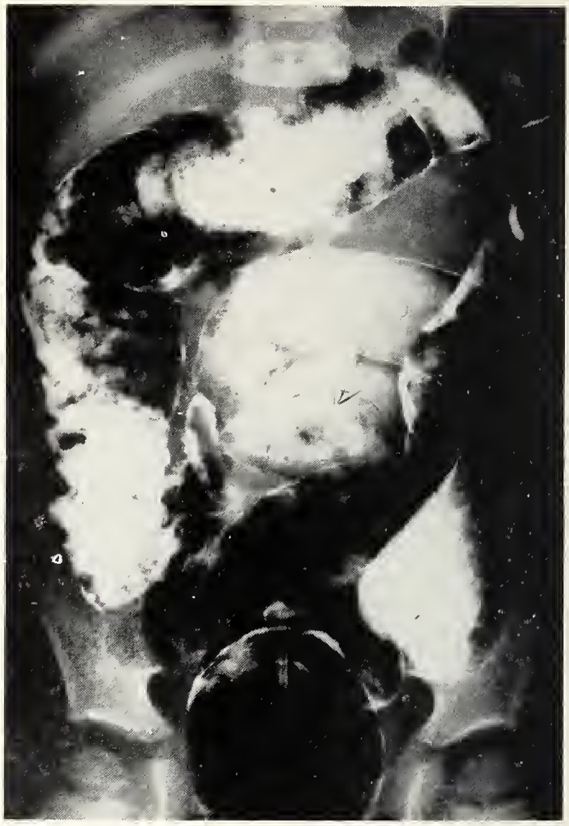

Fig. 4. Rectal Polyp

In infancy and early childhood anal fissures are probably the most common cause of bleeding in this area. They are usually due to constipation and poor bowel habits. Hemorrhoids do occur but in our experience they are rare in early childhood.

Polyps are frequently seen in childhood. They are usually single but may be scattered profusely through the entire alimentary tract. About 75 per cent occur in the rectum but they may occur in any part distal to the cardia of the stomach. They are usually benign but may undergo malignant changes particularly in polyposes of the colon. Bleeding is the most frequent symptom.

It may be slight and demonstrated only by chemical tests. If the site of the polyp is high in the alimentary tract it can cause abdominal pain, cramps, and even severe pain. When it is present below the transverse colon, bleeding is more frequent because of the constant irritation of the more solid feces in this area. Although bleeding is usually only a few cc's, it may be profuse if the polyp is pedunculated and has undergone torsion. Polyps are rarely observed in the first year of life. They are frequently seen between the ages of 2 and 8 years. If low down they can usually be demonstrated by the endoscope or barium enema studies—in the other areas by gastro-intestinal x-rays.

In the following case report of rectal polyps here again two conditions might be at play causing the gastro-intestinal bleeding.

A 2½ year old female was seen at our Clinic with the complaint of blood in the stools and frequent bowel movements. Her present illness started about 11 months ago with five to ten bowel movements a day which contained blood and mucus. The blood is bright red at times, at others it is dark. It is not mixed with the feces but seems to be separated. For the past few months she has received treatment for chronic gastro-enteritis with no results. Physical examination was negative for any findings that would contribute to her complaint. Laboratory investigation revealed only a slight hypochromic anemia. Examination of repeated warm stools revealed many amebae which were thought to be amebic histolytica. No other parasites were found. The tentative diagnosis of amebic dysentery was made for which she received treatment. However, her stools continued to be frequent and contained blood. She was re-admitted for further investigation to include proctoscopic examination which was negative. Barium enema, however, revealed a polyp which proved to be the cause of her trouble. This was removed and several check-ups revealed no further trouble. In this case again we are confronted with two causes of gastro-intestinal bleeding which I would like to re-emphasize.

Other causes of bleeding from this area would include prolapsed rectum, amebic and bacillary dysentery, ulcerative colitis, scurvy, etc.

To successfully diagnose the site and cause of bleeding from the gastro-intestinal tract a detailed history and careful physical examination is imperative. To this should be added carefully planned x-ray examination, complete laboratory investigation, and endoscopic examinations. There is no contra-indication to barium enemas or gastro-intestinal x-rays in the presence of active bleeding. It might be safe to defer endoscopic examination until profuse bleeding has subsided. It would probably be wise to precede the barium enema with a sigmoidoscope examination if possible to visualize the rectosigmoid which cannot be well visualized by the enema. Aside from the information obtained by laboratory investigation in regard to the differential diagnosis it is also important in demonstrating the measure and affect of the hemorrhage on the patient.

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CONSTRUCTION STARTED ON NEWTON GENERAL HOSPITAL

Ground was broken for the new Newton General Hospital on December 8 with completion expected within the next twelve months. The ceremonies culminated plans and work of five years by interested citizens of Beat Four, Newton County. The project, when completed, will be a modern, fully-equipped 40-bed hospital. Dr. Omar Simmons, owner of the Newton Hospital, will serve as manager of the new institution. The present Newton Hospital will be left standing until such time as the new one can be placed into use.

The Present Status of the Hypotensive Drugs in Surgery

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HYPOTENSIVE SURGERY”, “hypotensive anesthesia”, “hibernation”,. “bloodless surgery”, are descriptive terms which seem to be finding their way into our medical vocabulary with increasing prominence. Long ago it was noted that chloroform anesthesia was associated with less bleeding than was ether anesthesia; however, the concept and mechanism of this phenomenon is different from those to be discussed. In fact, literature which directly refers to the concept of lowering the blood pressure in order to obtain a bloodless field dates back only to 1946—a mere seven years ago. The bulk of the literature at the present time referring to this subject goes back only to 1950. Also it is interesting to note that this work was pioneered by the British and the greatest amount of work and the most persistent efforts in this field have been done by the British. Next have been the French, then the Germans, and strangely enough the Americans have been rather slow in catching on.

PHYSIOLOGY AND PHARMACOLOGY

In order to understand the basic nature of autonomic ganglia and the autonomic nervous system, one must have a clear understanding of the anatomy and physiology of this portion of the nervous system. So a brief review of this subject will be presented.

One can often predict the action of autonomomimetic agents on various organs of the body if the responses manifested by nerve impulses are known because these mimic the effects of nerve stimulation. Claude Bernard was one of the first to recognize the role of the autonomic nervous system in regulating the economy of the body and this was included when he spoke of the “milieu interne”. The autonomic nervous system, also called the visceral nervous system and vegetative nervous system, consists of nerves, ganglia, and plexuses which innervate the heart, blood vessels, glands, viscera, and smooth muscles. In this discussion, the blood vessels will be most conspicuous and to a lesser extent the smooth muscle in developing the subject under discussion. The major difference between the autonomic nervous system and the voluntary nervous system is that in the former the synaptic junctions are located in ganglia which are entirely outside of the cerebro-spinal axis; whereas, the synapses of the somatic or voluntary nerves are entirely within the central nervous system. When the nerves of the somatic nervous system are interrupted the organ which they supply is completely paralyzed. When the nerves of the autonomic nervous system are interrupted, the organs, e.g. blood vessels and smooth muscle, continue to act independently.

The sympathetic nervous system is located between the seventh cervical vertebra and the third lumbar vertebra. For this reason it is called the thoraco-lumbar nervous system also. The parasympathetic nervous system is located in the various parts of the brain and also in the vicinity of the sacrum and for this reason it is called the craniosacral nervous system. Each of these consists of a preganglionic fiber, a ganglion and a postganglionic fiber. One of the chief differences between the two systems is that a sympathetic fiber may traverse a considerable distance and pass through several ganglia before it finally synapses with a postganglionic neuron. Also it synapses with a large number of postganglionic fibers. The parasympathetic nervous system, on the other hand, has its ganglia located very near the organs innervated and so it appears to be more closely connected to the organ. In their respective actions, the sympathetic nervous system discharges as a unit, affecting all the autonomic structures at the same time. The parasympathetic system is organized primarily for localized discharge and not a mass response.

Cannon has summarized the differences between the two systems as follows: “The sympathetics are like the loud and soft pedals, modulating all the notes together; the cranial and sacral innervations are like the separate keys”.

The entire basis for the use of these ganglion-blocking drugs lies in the chemical theory of the transmission of impulses. In fact, it has been largely through the use of these drugs that this concept has graduated from theory to fact and it is universally accepted that all preganglionic fibers liberate acetylcholine and all post-ganglionic fibers liberate sympathin. There is an exception to this. There are some post-ganglionic fibers which also liberate acetylcholine; e.g those that supply the sweat glands and the vascular bed.

This brief review of the physiology and pharmacology of the autonomic nervous system is inadequate for a thorough understanding of the subject but is adequate as a background for the discussion of the drugs involved. Also, this particular description is given here with the writer being aware of the current controversy that exists over the true mechanism of acetylcholine; e.g. a newer concept that acetylcholine acts intra-cellularly and not locally. However, this is not a settled question by any means, and the concept given here serves the purpose better than any other. These drugs that are capable of producing such profound hypotension block the action of acetylcholine at the ganglion. Whether they inhibit the liberation of acetylcholine at the ganglion or whether they raise the tolerance of the ganglion to acetylcholine is not clearly understood. However, the action of acetylcholine is blocked at the ganglion and so they are called ganglionic blocking agents.

HISTORY

The use of drugs to specifically lower the blood pressure to produce a bloodless field is rather new. However, the same effect has been accomplished by operators who observed this as a secondary result. For instance, in 1938 Lempert in his original technique of fenestration, was able to produce a blood pressure low enough to provide a satisfactory surgical field by the use of local anesthesia and large doses of barbiturates and morphine. In 1944 Phemister demonstrated in rabbits that the reduction in blood pressure to shock levels by stimulation of the aortic-depressor nerve could be well-tolerated for hours and that recovery was prompt when the stimulation was removed; whereas, reduction in blood pressure to comparable shock levels due to bleeding of the animal was not easily or at all recovered from. These experiments served to emphasize the difference from the standpoint of danger to the organism between hypotension due to a neurogenic mechanism (relatively innocuous) and hypotension from severe hemorrhage. In 1946 Gardner used arteriotomy to lower the blood pressure during removal of an olfactory groove meningioma replacing the same blood after the operation. In 1948 the first case was done in which one of the ganglion blocking agents was used specifically for the purpose of producing hypotension. This was for a case of glaucoma and the agent reduced the intra-ocular pressure so that the procedure would be technically facilitated. Following 1948 the use of these drugs for this purpose became more widespread particularly in England. The French and Germans have since explored this field also.

TECHNIQUE

It is not the purpose of this discussion to discuss each of the newer drugs that are known as ganglionic blocking drugs. Most of these drugs are still in the investigative phases and have only been assigned a number. We are all familiar with tetraethylammonium bromide (etamon) which was the first of these. A list of the others will be made at the end of the discussion. Regardless of the drug used, the technique and action of the various drugs are similar differing only in degree: e.g. some are capable of more profound effects than others. The patient is anesthetized in the usual way. Most reports state that it is best not to use cyclopropane because of its tendency to enhance capillary oozing. The agent of choice is administered in the recommended dosage and the blood pressure is then checked every minute or two until the desired level is reached. When the autonomic control of the blood vessels is eliminated, the force of gravity plays an important part in maintaining the circulation so the dependent parts are relatively more vascular than the elevated parts. This is taken advantage of and the operative field, whether it is the abdomen, thorax, or head, is elevated and the effect of posture aids in lowering the blood pressure to the recommended level. The satisfactory level, and at the same time, the safe level according to most of the investigators is between 60-80 mm. of Hg. They have found that bleeding is at a minimum at this level and also the system can tolerate this degree of hypotension with no adverse effects. Some report that in the presence of these drugs the sensorium is dulled so that less anesthetic has to be used. If the pressure begins to rise during the procedure, the dose can be repeated. If the pressure should fall to undesired levels, one of the vaso-pressors can be administered with a prompt response. After the procedure is over, the pressure is allowed to rise very gradually to normal levels. This gradual rise to normal is important because this helps to prevent one of the complications to be mentioned later—that of reactive hemorrhage.

This, then, is essentially the technique. In contemplating this subject it is obvious from the start that there is an important difference in the type of hypotension produced in this manner and the type encountered in severe bleeding. Why should one be any less damaging than the other. When one remembers that in the latter, coinciding with the rapid blood loss is a generalized constriction of the vessels to the various organs which further deprives the organ of blood. When hypotension is produced by these drugs, the circulation through the organs is actually enhanced because of the vaso-dilatation produced through the action of these drugs. Also, there is no transfer of fluid from one compartment to the other, which occurs in traumatic shock.

HAZARDS

Notwithstanding the enthusiasm with which this method has been received by those that have used it, they are quick to recognize certain hazards associated with it. These are as follows:

1. Cerebral anoxia, especially in the foot-down position. It can again be stated that the lower the pressure falls, the greater the effect of gravity and the dynamics of hydro-

static pressure become the dominating factor.
2. Renal ischemia.
3. Reactionary hemorrhage.
4. Cerebral thrombosis.
5. Cardiac failure.
6. Respiratory upsets.

It has been demonstrated that a foot-down tilt of 15 degrees decreases the proportion of blood in the cephalic portion of the body from one-third to one-seventh and such a drastic reduction is likely to produce disastrous consequences sooner or later. Hemiplegia, paraplegia, total blindness from retinal atrophy must be included in the list of complications arising from brain and brain stem anoxia. It might be assumed that with complete vasodilatation the blood flow through the kidney would be enhanced as it is in spinal anesthesia. However, there is some conflicting evidence in the literature regarding this so that renal ischemia still has to be considered a hazard. Gillies, Smith and others have shown that a pressure of 60 mm. Hg. is necessary for the production of urine, but this is certainly the lower limit. This method merely controls capillary bleeding. Bleeding from large vessels will still occur so that the usual surgical technique for controlling hemorrhage from large vessels must be employed. However, if the pressure is allowed to return to normal too rapidly there is the possibility that bleeding will occur from the capillary beds. For this reason a gradual rise in the pressure to normal is desired. Also with the body in a state of hypotension, bleeding from a large vessel that is cut inadvertently would produce disastrous results. Due to the fact that there is probably a slowing of the rate of flow through the brain, thrombosis could occur due to the altered hemodynamics. However, this is not only true in the brain but in the dependent portions of the body as well. So thrombosis in any part of the body is a definite possibility. Electro-cardiographic studies have indicated that there is a risk of cardiac failure either from a reduced coronary flow or a disturbance in the conduction mechanism of the heart. There is a marked reduction in venous return to the heart with the patient in this condition. In this connection, one must remember the effect that positive pressure has on the blood-pressure and the venous return to the heart. When used with the individual in the hypotensive state, positive pressure has a powerful influence on blood pressure. The amount of coronary blood flow is determined largely by the level of blood pressure in the aorta and during hypotension the coronary flow falls. Changes in cardiac output during the hypotension produced by ganglionic block are variable but such observations as are available indicate that it is unchanged or may increase slightly. The hypotension produced by this method is associated with widespread vaso-dilatation so that although the cardiac output is increased, the work of the heart may be decreased owing to lowered flow resistance. In patients with coronary disease, the inter-coronary anastomoses may enable an adequate coronary flow to be maintained in spite of extensive coronary narrowing and such patients may be completely free from symptoms. The maintenance of an adequate circulation to the heart muscle in this type of patient depends on an adequate blood pressure and for this reason hypotension is usually treated promptly to prevent ischemic changes occurring. Smallar doses of these ganglionic blocking agents have been used to treat hypertension and have caused deaths from cardiac infarction and many more cases of coronary insufficiency are known to have occurred where the blood pressure had not fallen as low as 65 mm. Hg. And of course, the vasopressors used to prevent a total circulatory failure are an additional hazard in these situations.

Since these drugs block sympathetic impulses, it may be a factor in producing bronchospasm. There is a report of a patient who was discovered to have asthma on whom one of these was used. This particular patient died from massive pulmonary collapse. However, he was also given pentothal and cyclopropane, both of which are spasmogenic so the extent that the hypotensive agent exerted cannot be accurately evaluated.

USES OF THIS METHOD

Some of the surgical procedures and some of the therapeutic uses of this method will be briefly discussed. Since the head is the easiest part of the body to raise, one would expect that its use in neuro-surgery would be among the first to be explored. Guiot and Damoiseau, in a preliminary report discuss this method in 24 cases of brain surgery. Their report is of course filled with enthusiasm and they feel like this is the answer to all brain lesions that have been heretofore considered inoperable because of the technical complication of severe bleeding associated with some of the various histological types of tumor such as angiomas and angioblastic gliomata. Besides obtaining a bloodless field, they say that the cerebral edema normally present in the areas surrounding the tumor is absent. Because of the absence of these two undesirable complications, extirpation of the lesions can be accomplished easier and more completely. They followed their results with electro-encephalogram tracings and found that in most cases the tracings returned to normal and at an earlier date than in previous cases of a similar nature.

This method has been used in radical surgery especially in the pelvis where uncontrolled bleeding has always been a problem. Its use to good advantage has been reported in thyroid surgery, radical neck surgery and radical breast surgery.

There are many other uses for these drugs for purposes other than to produce a bloodless field but which are outside the scope of this discussion. For the purpose of completion, however, they will be listed. Pulmonary edema, pulmonary embolism, various pain syndromes such as the ureteral colic from stones, many of the vasospastic entities and eclampsia.

SUMMARY

Those who have used this method are enthusiastic and believe that it is the answer to many problems that we have been heretofore unable to solve. Those who have not used it are skeptical and can think of many possible undesirable consequences, some of which have already been experienced by the ones who have used it. Induced hypotension cannot be justified merely on the grounds that it will make the surgeon's task easier and quicker. It may be properly used if it is essential for the success of an operation which is being performed to save a patient's life or to relieve some gross disability. Any progress in the field of medicine must prove to be for greater safety of the patient. If new concepts such as this reduce the margin of safety then they must be discarded. To perform operations on patients that appear to be similar to "freshly prepared cadavers" as one prominent American surgeon described these patients, is not in my estimation for the best interest of the patient. The promiscuous use of this method should not be tolerated. At the present time there are still too many unknowns concerning the effect that induced hypotension will have on some of the vital organs of the body. In cases where the operating time is prolonged and also in poor risk patients, the use of these drugs is contra-indicated. Even though the electrocardiogram is normal, we still do not know the actual state of the coronaries and what they will do in a crisis. To use these drugs where they are contraindicated is to invite serious morbidity and no doubt a higher mortality.

Of course, one cannot discard the idea as unsound. The ones who are investigating it are reliable persons and their approach is a scientific one and their enthusiasm must be respected. However, the question is open and like all other innovations, time and experience will place it in its proper sphere.

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ADDENDUM

The following are some of the newer drugs used for the purposes discussed in this paper.

NU 2222
RO 2-2222 (Arfonad) Hoffman-LaRoche
BA 9295 (Pendiomide) Ciba
T.E.A.B. (Tetraethyl Ammonium Bromide)
C 5 Pentamethonium Iodide
C 6 Hexamethonium Iodide

405 Broadmoor Drive

Differential Diagnosis of Bronchial and Cardiac Dyspnea *

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The differentiation of syndromes producing dyspnea is often difficult and the consideration of the entire group of causes is beyond the scope of this paper. I would like to invite your attention first to the mechanism of cardiac dyspnea. Hypertrophy of the heart muscle has long been recognized as the first response to cardiac stress especially that due to hypertension. This is followed with continued strain by dilatation, resulting in a reduction in the capacity for work. The left ventricle is usually the chamber first showing the effects of strain resulting in left auricular failure with pooling of blood in the pulmonary veins and capillaries. There follows a reduction in blood aeration which further reduces the capacity of the heart muscle for work. Pulmonary congestion is reflected in the right ventricle by dilatation and subsequently in the right auricle with the well recognized engorgement of the neck veins, arm veins and the easily recognized dependent edema.

During the stage of pulmonary congestion, before the right ventricle has yielded to the excessive strain, the differentiation of cardiac and asthmatic dyspneas is most difficult.

Now let us consider the mechanism of asthmatic dyspnea. This is a symptom complex in which sensitization to an allergen has resulted in bronchospasm with its attendant difficulties. The basic pathologic physiology of the spasm of the smooth muscle of the bronchi and bronchioles is poorly understood, but the extreme difficulty experienced by the patient in an attack is obvious.

The first and most important step in the diagnosis of any disease is a complete history. In about 80 per cent of the patients a diagnosis can be made on the findings of a good history. The age of onset is a significant factor with cardiac failure usually occurring after fifty and bronchial asthma appearing from infancy to middle age. "Asthma" appearing after fifty should receive special diagnostic attention. Respiration in the cardiac produces the sensation of inability to fill the lungs but with the asthmatic the difficulty is on expiration.

Orthopnea in the cardiac is a continuous, progressive symptom in contrast to the asthmatic who is comfortable lying flat except during an attack. Exertional dyspnea is characteristic of the cardiac but between attacks is likely to be absent in the asthmatic. Dependent edema either of sacrum or feet and ankles is so rare in asthma that its presence differentiates in favor of heart disease. Nocturia is also foreign to uncomplicated asthma.

In considering the manifestations of more severe cardiac failure and complications of bronchial asthma the findings diverge rather sharply. In the cardiac palpitation, arrhythmia, precordial oppression and often angina appear together with cough of a nonproductive nature or sputum which is pink and foamy or rusty. The thick, tenacious, white, foamy sputum of the asthmatic is the rule over a period of years. Ascites, so common as failure progresses, is highly unlikely in the dehydrated aminophyllin-treated or water-deprived asthmatic. Physical findings if they deviate from the normal at all separate the cardiac and the asthmatic. The cardiac with his rapid pulse often presents an elevation of blood pressure due to anoxemia of the vasomotor center. His respiration is rapid and shallow with a short expiratory phase and as a rule no musical rales on expiration. Cardiac enlargement and/or a murmur adds further evidence to the case. Basal dullness not influenced by excursion of the diaphragm and moist rales in one or both bases completes the cardiac and pulmonary findings in the patient with heart disease.

The asthmatic in an attack resembles the cardiac in rate of respiration and possibly in heart rate although this latter symptom is much less marked in the absence of adrenalin or aminophyllin medication. The so-called "barrel chest" of the longstanding asthmatic may be completely absent in the patient with intrinsic asthma usually found in the older age group. Classical findings of expiratory musical rales may be confused by the findings of inspiratory musical rales also, the latter being attributed to bronchial infection.

In discussing the laboratory findings I will take up first those usually included in the routine office study, namely, the blood count and urinalysis. In the cardiac and the asthmatic the red, white and hemoglobin are usually slightly increased but the asthmatic manifests an eosinophilia. Urinalysis reveals a diluted specimen containing albumin and casts in the cardiac and a concentrated specimen in the asthmatic. The group of special tests includes the following:

1) Circulation time for the asthmatic may be as long as 15 seconds with Decholin arm to tongue and for the cardiac varies between 25 and 50 seconds.

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* Presented before the Section on Medicine at the eighty-fourth annual meeting of the Mississippi State Medical Association on May 13, 1952.

2) Venous pressure in the asthmatic may reach 80 mm. of water or slightly higher during an attack but will not compare to the levels of 140 to 250 seen often in right ventricular failure.

3) Vital capacity if determined in the asthmatic between attacks will approach the 80 to 100 per cent normal but the cardiac even when breathing quietly registers readings of the magnitude of 25 to 50 per cent.

4) The x-ray of the asthmatic chest without emphysema is characterized by increase of the bronchovascular markings, enlargement of the root shadows and a narrow vertical heart which scarcely protrudes beyond the mediastinal density. Fluoroscopy of the uncomplicated asthmatic chest is within normal limits.

   The x-ray of the cardiac chest presents markedly different findings. The transverse diameter of the heart, usually one-half the diameter of the thorax, is markedly increased, the apex extending far into the left chest. There is dilatation of the pulmonary veins and enlargement of the hilar shadows. If failure is moderate to marked there may be increase in the density at the bases and pleural effusion is often seen usually appearing first on the left.

   Fluoroscopic examination with the use of barium by mouth is useful in demonstrating cor pulmonale and differentiating enlargement of other chambers of the heart.

Therapeutic tests are sometime necessary for differentiation of asthma uncomplicated from asthma accompanied by heart disease. The contrasting response of dyspnea of cardiac and asthmatic origin is well known. Adrenalin in the cardiac is not beneficial but is usually dramatic in the asthmatic. The steady improvement of the cardiac with digitalis is in striking contrast to the response of the asthmatic to digitalis. Rest for the cardiac affects improvement in the symptoms but influences the asthmatic not at all.

The enlightening work of Gelfand and Widlitz using Mercuhydrin in asthmatics with marked increase in respiratory difficulty adds one more weapon for differentiation. They reported a series of six patients in which the problem of cardiovascular complications was perplexing. The response to 2 cc. Mercuhydrin subcutaneously was dramatic. Relief of much of the dyspnea and a significant weight loss was considered to be diagnostic of cardiac failure. In contrast, a series of twenty patients with straightforward allergic bronchial asthma showed no improvement on the same therapy.

CASE

Mrs. P. J. is a twenty-nine-year-old housewife who was admitted to the local hospital because of extreme respiratory difficulty and cyanosis. She had been an asthmatic twenty years. The history was typically that of bronchial asthma severe, and the patient had moved to Arizona where she was little improved. Systemic review revealed hematemesis and melena of three months duration one year ago and a recurrence two weeks before the present admission. Physical examination revealed an emaciated white female in acute severe respiratory difficulty with some cyanosis. The heart rate was 160 consistently and auscultation of the chest revealed a tight, dry, expiratory wheeze. The remainder of the physical examination was negative except for a mild endocervicitis. The admission diagnosis was status asthmaticus.

The patient was treated with cortisone, responded dramatically on the third day and was completely clear by the fourth. The vital capacity was 50 per cent, circulation time 14 seconds and E.P.A. of the chest showed the expected flattening of the diaphragm and diffuse accentuation of the bronchial markings. The heart shadow was not enlarged.

Because of the hematemesis two weeks before, and the prospect of cortisone maintenance a gastrointestinal series was done and reported normal. Fluoroscopic examination of the chest revealed a totally unexpected enlargement of the pulmonary vessels and right ventricle. This finding and the continued high pulse rate which was about 100 to 120 were considered evidence of the cardiac failure complicating the asthma, and digitalization was carried out with evidence of improvement.

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MISSISSIPPI STATE MEDICAL ASSOCIATION
Eighty-fifth Annual Meeting
Biloxi - May 12, 13, 14, 1953

Resume of Recent Research Findings in Poliomyelitis *

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Slowly but surely the research centers have been making important discoveries in different facets of the poliomyelitis puzzle under the impact of a very broadly based nation-wide research program. For many years the disease has been recognized as a definite clinical entity or group of clinical entities. Despite this fact there have remained tremendous deficiencies in knowledge as to the exact nature, habitat, modes of spread, method or methods of entry into the human body, routes and methods of tissue invasion, and action on neuromuscular system of the virus. Knowledge is also deficient as to type and duration of immunological response resulting from infection, methods of control, prevention, and modification, and effective chemical or immunological therapy.

It is an old concept that for progress to be made in control and prevention of a given communicable disease we must first have most of the questions suggested above answered. Therefore, most of the research to date has been directed at answering these questions.

To forego the danger of making this paper too lengthy in trying to give findings over a long period of time, I am taking the liberty of confining this paper to a summary presentation and brief remarks relating to some of the findings as reported in "Research Reference Bulletins" of the National Foundation dated from March, 1951, to March 4, 1952. Nine of these were selected which seem to be of most practical significance and all have been published in professional journals.

In a paper published in October, 1951, Albert B. Sabin[1] considers various factors that may contribute to the difference in incidence of paralytie poliomyelitis as influenced by geography, population group, heredity, and dosage and virulence of virus. He points out that "It is perhaps axiomatic that poliomyelitis infection occurs wherever human beings are present and persists wherever they live in large enough communities to maintain the chain of infection." In this connection he asks why paralytic poliomyelitis is more prevalent in certain groups of people than others and why poliomyelitis infection in inapparent abortive forms appears to have a nearly universal distribution. It is pointed out that there is a very real difference in the amount of paralytic poliomyelitis in North America and Europe as compared to natives of the near and far East with paralytic poliomyelitis being more common in the former areas and no evidence of less infection and subclinical cases in the East. During World War II American troops experienced considerable paralytic poliomyelitis while stationed in the Philippines and China where natives showed almost complete freedom from the disease. The same relationships existed in South Africa where nonnatives had much more paralytic disease than did natives. This study further points out the wide variation in the ratio of paralytic to nonparalytic disease in varying areas of the United States of America. He states that Collins demonstrated a very significant difference in paralytic disease between white and nonwhite people with the whites showing three to four times higher frequency of paralysis than the colored in northeastern United States of America.

As a possible explanation Sabin gives good evidence that there is a genetic basis for the determination of the outcome of infection and that this factor is probably a susceptibility inherited as a recessive characteristic and resistance as a dominant characteristic. This is supported to some extent by the multiple cases in the same family tree in many authenticated studies. Further evidence of this is the change of incidence of paralytic polio in inbred families of susceptible or resistant mice.

As further possible explanation for the variation of paralytic rates the probable influence of varying virulence of strain of virus is discussed. In an experiment related involving monkey pathogenicity to strains of virus isolated from cases in Cincinnati, there was definite correlation of the paralytic monkey pathogenicity to the frequency and severity of paralysis in humans from whom the strains were isolated. Dr. Sabin disagrees with the concept that low paralytic rate in some countries is the result of maternal antibodies transferred in milk. He found that drinking antipoliomyelitis milk by susceptible monkeys had no influence in preventing or modifying the disease.

Probing further into the problem of infection and resistance Melnick and Ledinko[2] reported their finding in the *American Journal of Hygiene* in November, 1951, of a study of antibody levels in a normal young population during an epidemic of poliomyelitis. They call this approach serological epidemiology. They cover in this report among other serological studies the Lansing strain antibody content and Coxsackie virus antibody in relation to socio-economic groups and the presence of an epidemic of poliomyelitis. The locale of the study was Winston-Salem, North Carolina. These workers conclude that children there start life with a full complement of antibodies of most common diseases including poliomyelitis and that these antibodies drop to a minimum level or disappear at six months of age. With increasing age after six months they slowly regain specific antibody and at a specific rate for each disease. Lansing poliomyelitis antibody was present in 90 per cent of newborns and no longer detectable after six to twelve months but gradually increased after that period to 43 per cent with antibody after four years of age. This supports the finding of poliomyelitis relatively infrequently in infants under six months, the peak of prevalence from one to four years and decline thereafter with increase in age. Coxsackie antibody followed about the same curve in relation to age as poliomyelitis antibody. This study also demonstrated that in the preepidemic period Lansing antibodies were more common in the lower socio-economic group than in the upper group suggesting that the lower group had more frequent contact with the infectious agent. This was also true in the post-epidemic period.

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Bodian[3] relates study of two individuals having second attacks of poliomyelitis and points out that second attacks are infrequent but when they do occur it has its best explanation on the basis of infection with different strains with successive attacks. Listing present known antigenic types as Brunhilde, Lansing, and Leon he pointed out that both of the cases studied with second attacks had Leon type infection. Although the type involved in first infection was not definitely known, evidence available indicated that the first attack in each case was probably Brunhilde type infection. This and other similar reports help to explain outbreaks in the same region on an annual basis.

The question of how the virus gets into the body and reaches the central nervous system is an extremely important one from the standpoint of ultimate prevention. At present it is the general concept that the virus leaves the infected human host primarily in the stool and most commonly enters the body by swallowing. Other methods of entry have been repeatedly demonstrated. A study by Faber, Silverberg, and Long[4] on monkeys to determine more about the entry and egress of the virus was reported in December, 1951. The report of previous studies which showed that the virus may reach the central nervous system through the mucous membrane nerve trunks, and ganglia of both the upper and lower alimentary track and that the virus may travel toward and from the central nervous system by these routes. They further point out that the invasion process may stop at any point along these nerve trunks and particularly at the ganglia. With properly controlled groups of monkeys they swabbed live virus on the intact oropharyngeal mucous membrane. They found that in most instances the ganglia supplying area swabbed showed pathology on about the fifth day and that the invasion frequently proceeded to the ganglia without involving the central nervous system. Apparently the infection frequently remains localized in the ganglia for many days before passing on to the brain and spinal cord even when this is the end result. They suggest that most subclinical or asymptomatic infections are limited to the ganglia and that said ganglia even serve as sources of viral excretion and re-infection.

Faber, McNaught, Silverberg, and Dong[5] report on a study of "Experimental Production of Post-Tonsillectomy Bulbar Polio." In a carefully controlled experiment with monkeys they concluded that post-tonsillectomy bulbar poliomyelitis may often be due to introduction of virus present in throat into nerves leading to the throat and that experimentally those animals with throats painted with iodine solution prior to tonsillectomy seem to be protected against this hazard. Another finding was that tonsillectomy increased frequency and severity of disease in monkeys. This has been confirmed on several occasions in humans.

Another recent finding bearing on entry of the virus into the body was published in June of 1951 by Anderson and Skaar[6] who presented reasonably sound proof that there is some relationship between immunization against smallpox, diphtheria, pertussis, and tetanus. This study strengthened similar findings in England and Australia. Their conclusions were as follows:

"1. There apparently is relationship between these immunization procedures and localization of paralysis in the arm in which antigen was injected within 30 days before onset of polio.
2. There is strong suggestion that the cases following immunization are more severe.
3. There is no evidence that this relationship is associated with any one antigen.
4. There is no evidence that the effect of antigen injection lasts longer than one month.
5. Since immunization is an elective procedure, it can well be delayed during outbreaks of polio, but the delay need only to be temporary."

Following publication of these findings the State Board of Health now recommends to county health departments that immunizations particularly in children over six months of age be discontinued during an outbreak of the disease in a given county.

One of the more practical phases of research has been directed at the production of an effective active immunizing agent in the form of a vaccine. A study of methods of vaccine production was reported by Dick[7] and co-workers in March, 1951, in the *American Journal of Hygiene*. They prepared inactivated polio virus vaccine by two methods of inactivation. One was by ultraviolet irradiation and the other with ultrashort, high speed electron bursts. Vaccines prepared by each method were then tested for infectivity and antigenicity or ability to stimulate antibody production. Their studies indicated that these two methods of virus inactivation with retention of antigenicity compare favorably with chemical methods formerly reported on.

Many experiments have demonstrated immunologic and other relationships of Lansing polio virus to other virus diseases in human and animal. Chang and Wenner[8] report a study which demonstrated immunological inter-relationships between Lansing virus and the virus of sporadic bovine encephalomyelitis. First, they adapted bovine encephalitis virus to laboratory animals to the extent that this adapted virus caused paralytic symptoms or death in a high percentage of animals inoculated. It was then found that these animals could be given almost complete protection by the use of homologous neutralizing bovine encephalitis antibody as well as by Lansing poliomyelitis antibody. Conversely, Lansing poliomyelitis virus could be neutralized by high dilution of bovine encephalitis antibody. They further pointed out a previous report of Hammon and others of the finding of a substance in cattle in western states which had considerable neutralizing effect against Lansing poliomyelitis virus. These studies point further to a very large reservoir of virus diseases in man, animal, and fowl including poliomyelitis virus and many showing immunologic, pathologic, and epidemiologic kinships.

Increasing attention is being paid to coexistence of poliomyelitis virus and other viruses. One such simultaneous occurrence was reported by Melnick and others in an epidemic of polio in Easton, Pennsylvania. Here they found a majority of poliomyelitis cases to be excreting poliomyelitis virus and Coxsackie virus in the stool in the acute stage of poliomyelitis. Poliomyelitis virus was isolated from stool of 75 per cent of 36 cases and Coxsackie virus from 64 per cent of the same group of cases. Coxsackie virus was found in only three of 22 patients in the fourth week of illness. Both viruses were isolated from 56 per cent of 36 cases. These investigators do not claim a relationship between these two viruses but repeated previous findings of dual existence in the epidemic and pose the interesting questions of how frequently it occurs in poliomyelitis and the possible relationship of Coxsackie virus to the clinical picture ordinarily diagnosed as poliomyelitis.

In conclusion it should be emphasized that this summary deals only with a small proportion of recent research findings. Here we have dealt almost exclusively with epidemiological aspects of research and have necessarily omitted reference to treatment in general. Not one bit of reported research findings has been the beginning nor ending of the complex character of poliomyelitis research but all of the research adds to the total knowledge either by negative or positive findings. Some of the findings seem to conflict with others. Even recently a report came out in the press and popular magazines that the answer to poliomyelitis had been found in that evidence that there is a period of several days of incubationary viremia before onset of symptoms. This seems to be in direct conflict with previous reports but if confirmed, it may suggest and make possible a preventive attack by chemotherapy or immune therapy during the viremic stage. Required answers will be found to the problem by a slow process of adding to the store of knowledge now at hand.

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Ocular Brucellosis [*]

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Brucellosis has been a recognized disease entity since the publication of the work of M. L. Hughes, Sir David Bruce, and the Mediterranean Fever Commission in the years of 1897-1907, although medical history gives evidence of the presence of this disease in the Mediterranean areas, Europe, Britain, the Middle East, and India, as far back as the time of Hipprocrates.

David Bruce identified and demonstrated the causative organism, Brucella melitensis, and traced its immediate source to the infected goats of Malta. The pathogenicity of Brucella abortis for man was suspected, but it was not until 1924, when the first proved case report of B-abortis infection in man was reported by Keefer.

Brucella Suis was isolated from swine in 1914 by Traum and demonstrated pathogenic to monkeys and man in 1929 by Huddleson and Hallman. Brucella infection is transmitted to man principally through the ingestion of raw milk or non-pasteurized dairy products, contact with infected animals, or their flesh, or contact with live cultures in laboratory work. Other potential sources of the disease include sheep, mules, horses, dogs, cats, chickens, English sparrows, all of which may be infected if exposed to infected herds. The organisms have been found in buffalo and elk. Flies of several species show ability to excrete the live organisms for four or more days. An epidemic in Argentina was braced to drinking water contaminated by an infected herd. Mosquitos have failed to transmit the disease experimentally.

Five to six thousand cases a year have been reported in the United States since 1945. From 47 to 61 cases per year have been reported in the state of Mississippi since 1948, and the incidence in adjacent states is approximately the same. Dairy workers, farmers, meat handlers, and veterinarians are the most frequently infected.

Like tuberculosis and syphilis, the manifestations of brucellosis are highly variant. It may infect any of the body's tissues or structures producing obscure symptoms and protean clinical forms. The first evidence that systemic Brucella infection might involve the eye was reported in 1912, when Fayban reported three cases of keratitis in guinea pigs. Sections of these eyes showed tubercle-like masses of lymphocytes and lymphocytic infiltration of the corneas. Brucella organisms were cultured from these eyes. In 1928, Orloff reported that ten per cent of experimentally infected guinea pigs showed eye manifestations of keratitis and secondary iridocyclitis and exudates over the pupillary space. In 1931, Dr. E. L. Burky repeated this work with similar results and also presumptive evidence that a disease in horses, periodic ophthalmia or "moon blindness" might be of the same origin. The micro pathology was similar, but he could not demonstrate the organism due to the unavailability of horses' eyes in the acute stage of the disease.

The first case report of human ocular brucellosis was made by LeMaire in 1924 with a report of bilateral optic neuritis in a patient having Brucella meningitis. Thereafter the literature shows scattered reports of iritis and keratitis of presumptive Brucella origin. Green reviewed these cases in 1929 reporting 28 in all and adding four cases of his own. Woods and Guyton reported in 1944 a group of 200 cases of inflammatory eye diseases attributing seven and one half per cent due to Brucella.

The clinical characteristics of ocular brucellosis are not specific. Some of the virus infections, tuberculosis and infectious granulomas present similar pictures. Only a thorough medical study to exclude other causative factors and to demonstrate Brucella infection allows the diagnosis to be made.

The most frequent manifestation is inflammation of the uveal tract. The disease may occur as a simple or nodular iritis, a choroiditis, or a generalized uveitis. Early iritis may appear to be of a nongranulomatous type with fine keratitic precipitates composed of lymphocytes. With progression or recurrences, nodules may appear on the iris, K.P.'s become larger and granulomatous in type, although they seldom become the typical mutton-fat type of K.P. Later in the course of the disease, the iris may become thickened and show loss of luster and develop folds suggesting deep nodules in the stroma. Synechia are frequent. Cyclitic membranes may form. With further involvement of the uveal tract, the inflammation may continue to a phthisis-bulbi. The choroiditis of chronic brucellosis is a picture of one or more discrete elevated areas of exudation with little adjacent reaction or edema.

The cornea may show areas of sub-epithelial infiltrates appearing grossly as coin shaped gray or white superficial opacities, (nummular keratitis of Dimmer). With the slit lamp, the opacities are composed of small white dots. These lesions may heal by absorption or break down to ulceration and subsequent vascularization. The same appearance of the cornea has been produced by superficial inoculation of rabbit corneas with Brucella organisms. Some virus diseases also produce similar pathology. The histologic picture is one of lymphocytes and epitheliod cells grouped beneath an intact epithelium. The scleritis that occasionally is found in patients with chronic brucellosis is similar in appearance to that of tuberculous scleritis. Papillitis and optic neuritis have been reported secondary to brucella meningitis. In 1950 Yaskin reported two cases of isolated sixth nerve palsies due to Brucella. Medical reports from southern Europe and South America report a higher incidence of neurological complication than has been noted in America, with more frequent involvement of the extra-ocular nerves. The sixth nerve is the most frequently involved, the fourth and third less commonly. Extra-ocular palsies of this origin have been little emphasized in American literature. Brucellosis should certainly be considered in the differential diagnosis of ocular palsies of obscure origin.

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[*] Presented before the Section on Eye, Ear, Nose and Throat at the eighty-fourth annual meeting of the Mississippi State Medical Association, Jackson, Miss., May 14, 1952.

Definitive diagnosis of ocular brucellosis is dependent upon the history, clinical findings, and supportive laboratory evidence. Isolation of the organism by blood culture is a positive evidence, although difficult to accomplish. An elevated blood agglutination titre of 1-80 or greater is evidence of value. However, a negative blood titre does not exclude the disease. The agglutinins in the blood are likely to be fleeting in any stage of the disease and bear no constant relationship to the activity of the infection, especially when the infection is localized. Cross-agglutination may occur in the presence of Flexner bacillus infections, also those of Pasteurella tularensis, Salmonella typhosa, and cholera, or after immunization for cholera. The skin test is of some value, although like the tuberculin test, it may be negative in the presence of infection. If employed, the skin test should not precede blood agglutination tests as the skin test alone may give an elevated blood titre.

The United States Bureau of Animal Industry reports a national average of 4.9 per cent reactors to Brucella in the cattle population. The average in this state is similar. With this reservoir of potential infection, we may well consider brucellosis among other causes of eye disease.

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MID-SOUTH POSTGRADUATE MEDICAL ASSEMBLY

ADDITIONAL EXHIBITORS — (Final list)
Baby Development Clinic, Chicago, Ill.
Chilcott Laboratories, Inc., Morris Plains, N. J.
Ciba Pharmaceutical Products, Inc., Summit, N. J.
Coreco Research Corporation, New York, N. Y.
E. Fougera and Company, Inc., New York, N. Y.
Medco Products Co., Tulsa, Okla.
E. L. Mercere, Inc., Memphis, Tenn.
Mid-South Medical Gases, Inc., Memphis, Tenn.
Miller Surgical Company, Chicago, Ill.
Plough, Inc., Memphis, Tenn.
G. D. Searle & Co., Chicago, Ill.
Walker Laboratories, Inc., Mount Vernon, N. Y.
All space has been sold.

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MISSISSIPPI STATE HOSPITAL ASSOCIATION

Dates and locations of regional meetings are as follows: Region I, E. L. King, chairman, Janurary 14, Tupelo — Region II, Murray Hill, chairman, January 15, location to be announced — Region III, R. M. Castle, chairman, January 20, Hattiesburg — Region IV, Dr. David Wilson, chairman, January 22, Jackson. Each chairman will contact his individual members by letter giving the final details. These meetings will be the first of two which will be held during the current associational year. Your individual attendance will be instrumental in assisting your association in getting the 1954 legislative program underway.

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Forward looking physicians are urged to adopt the new concept of treating the patient as "a whole person" and to enlist aid of their communities in bringing about full recovery.

Dr. Frank H. Krusen, a pioneer in the field of physical medicine, and a member of the Section of Physical Medicine and Rehabilitation at the Mayo Clinic, makes his plea in an article "New Frontiers in Rehabilitation" in the December issue of *The Crippled Child* Magazine, official publication of the National Society for Crippled Children and Adults, the Easter Seal Society.

Current Detection of Chest Disease [*]

H. K. STAUSS, M.D.
Jackson, Miss.

MANY OF THE diseases affecting the various structures of the thorax were known centuries ago and usually presented a poor prognosis for the patients of those times because no effective treatment was available, whatever the isolated pathologic entity or epidemic malady. More recently, many of these represented medical curiosities frequently diagnosed only at postmortem examinations. Within the past one hundred fifty years most of these diseases have been under increasingly more fundamental investigation, evolving into rather accurate scientific description of pathologic physiology and anatomy. As a result of combined efforts of the various branches of basic and applied medical disciplines, many rather complex physiochemical concepts, diagnostic procedures and prognostic measures have been developed during the past fifty years. Only within the memory of the younger generation have the scores of novel specific therapeutic principles been discovered and applied. These trends and present knowledge constitute a real challenge to all physicians regarding their interest and acumen in the current detection of chest disease.

There are many good examples of the profound effects these developments have had on many diseases affecting the chest. Not only have mortality rates decreased significantly, or even precipitously, in recent years, but their morbidity has changed markedly also. Let us recall that the sulfonamides and antibiotics have not reduced the incidence of the pneumonias but have favorably influenced morbidity and mortality rates. While the respiratory infections not too long ago led the list of the causes of death, tuberculosis and pneumonia have been displaced to sixth and eighth places, respectively, and are now seldom fatal complications in childhood. The recovery rate for acute laryngo-tracheo-bronchitis from various causes in adults and especially children has dramatically changed in a most favorable direction. There are many other diseases which, although still common, can now be satisfactorily controlled and their victims rehabilitated for a long and useful life.

On the other hand, we must also make some dismal observations. Since the previously mentioned factors have increased the survival rate of children and adults and raised the longevity index of the entire population of our country, we may now expect many more examples of disease characteristic of old age or the aging process. Thus, it is not at all inconceivable that, despite a decline in the mortality and morbidity due to tuberculosis, we may actually discover more cases in the groups past middle life. But more interesting is the problem of cancer of the lung. There is rather good evidence that bronchogenic carcinoma, especially among males, has recently shown a sharp rise in incidence out of proportion to an expected increase of cancers of all types in the growing population of older individuals and far in excess of the discovery rate anticipated with greater awareness of the disease and better diagnostic measures for its detection. There may also be a parallel experience with morbidity due to structural changes such as pulmonary emphysema and fibrosis.

We must accept another challenge. There are certain diseases which although not entirely preventable, such as empyema and endocarditis, are nevertheless frequently avoidable or so amenable to treatment that we must recognize and care for their predisposing factors. There are others whose long persistence is incompatible with life or very disabling in their effects but which, if recognized early, may be significantly altered or even corrected. Among these are certain congenital anomalies, infections such as bronchiectasis, and some of the acute disorders due to physiochemical disorders.

These then present us with a challenge of listening to patient's histories and conducting their physical examinations in such a manner as to be aware of the possibilities of finding certain disease states which were formerly not readily recognized or confirmed or which, even if known, presented uncorrectible medical curiosities. Furthermore, we must realize our responsibility of suspecting or demonstrating certain pathological entities while they are still curable or their correction less hazardous or debilitating.

In the time allotted it is not possible to discuss all the diagnostic procedures applicable to diseases of the chest nor the various diagnostic features of all abnormalities. First, let us consider methods for disease detection.

The history, as in every illness, is a very important phase of the diagnostic approach. It must be stressed that in diseases of the chest there may be considerable difficulty in ascertaining the onset and development of the "present illness" and its proper correlation, if any, to the past medical history. Suffice it to say that all too often the patient and physician will consider a recent exacerbation of a certain syndrome as the "present illness"; and that frequently a change in certain symptoms is not appreciated as representing a transition between two phases of the same process and a valuable diagnostic clue. Another shortcoming is a frequent omission of inquiry into a possible contact history for infectious disease among family members and coworkers. We all know the value of such questions regarding tuberculosis. Currently this must also be applied in regard to mycotic diseases which are more prevalent in new geographic distribution—for example: histoplasmosis and coccidiodomycosis. As part of our effort to make earlier diagnoses we must ask about the more subtle complaints such as insidious dyspnea, fatiguability, lowering exertional tolerance, vague aching discomforts, and unnoticed change in cough habit, the character of the expectorate, etc. Various symptoms must be very carefully assessed against the patient's emotional states and backgrounds. Many of the signs and symptoms are often only elicited by asking. Some diseases, such as bronchiectasis, could readily be diagnosed from the history alone.

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[*] Presented before the Section on Hygiene and Public Health at the eighty-fourth annual meeting of the Mississippi State Medical Association, Jackson, Miss., May 14, 1952.

Physical examinations should be so conducted that minimal signs or subtle differences can be detected. To do so we must pursue a careful, systematic, comparative and differential examination of the entire chest in various positions and attention to both phases of respiration. Only then will we find localized areas of rales, wheezing, bronchial breathing or absent breathsounds or the true nature of murmurs. We should not permit percussion and auscultation to become a dying art by unwise reliance on the roentgenologic and electrocardiographic observations, simply because, in our aim to detect disease before we have indisputable evidence of advanced stages, the stethoscope and percussion may not reveal any abnormal findings. Whatever the physical findings they are of significance in correlating and interpreting the results of other studies. Without recurrences to elaborate diagnostic procedures, physical examination in itself is the key in detecting certain conditions, such as patent ductus or coarctation of the aorta.

LABORATORY METHODS

The routine analyses of blood and urine, in offices and hospitals, quite frequently will produce corroborative evidence of suspicions entertained from the results of other investigations although usually not diagnostic in themselves. Agglutination and complement fixation tests, the sedimentation rate and special preparation for certain cell types may be of great value.

Whenever a patient expectorates, sputum examinations should not be overlooked as a means of identifying the specific etiologic agents responsible for various diseases, especially tuberculosis. One might well find eosinophiles as an expression of the allergic component of a bronchopulmonary disorder. All these examinations will be more reliable if accomplished before the therapeutic effect of our modern drugs alter the source of these agents. When cancer is suspected, a properly prepared specimen, examined by a competent pathologist, could provide the histological diagnosis. We must request a search for fungi whenever indicated because that is not a routine laboratory procedure.

The foregoing remarks apply equally to laboratory examinations of pleural fluid or materials aspirated from abscesses, sinuses, fistulae or ulcers and samples obtained on endoscopic examinations.

The electrocardiograph need not be discussed in detail for we all know its value and limitations and recognize that its significance comes from integral interpretation.

Roentgenologic examinations have become the order of the day. In the investigation of certain disorders, fluoroscopic observations, with or without the aid from contrast media, frequently are the only meaningful adjunct to diagnosis—more so than the static films—because we can study function and observe transient changes or recurring cycles. We must realize that the various standard chest films of themselves usually do not make a diagnosis for us. This may be a disturbing thought considering the fact that, because of the translucency of the air-containing lungs, the thorax lends itself as the most accessible part of the body for x-ray examinations. Tissue infiltrates produced by different inflammatory as well as neoplastic disease processes may cast shadows of surprisingly similar density, configuration, size, location and relationship in the chest. Thus, they are just our clues to unsuspected or presumptive confirmation of expected disease entities and should motivate appropriate further investigation. X-ray findings, usually, assume diagnostic features and significance only when properly correlated with clinical and other findings. So, I would urge you to take full advantage of roentgenographic examinations by providing the radiologist or yourselves with as much information as possible so that the proper significance may be read into each medically noteworthy x-ray shadow; for without such knowledge the interpreter is at a distinct disadvantage and may be of little or no help in evaluating a given case problem. Wherever possible, we should accord the consultant a free hand in planning the approach of radiologic study because often fluoroscopic observations and films made in varying lateral and/or oblique projections, during various phases of deglutition, respiration or cardiac cycle, or with the aid of contrast media, are the only logical and rewarding sequence of diagnostic efforts.

Cine- or kymo-roentgenography were the natural outgrowth in the development of radiologic studies. While these methods are yet not generally available and, perhaps, still in the experimental phase, we should remember that in special cases, even now, we should arrange for such studies for the sake of certain of our patients.

Bronchography is a medium of examination which has long been available and has proved its simplicity and great value. It is applicable to many problems, but should be used with greater regularity in pursuing the suspicions of bronchiectasis. Here again fluoroscopic observation may be more valuable than the ultimate static films. Whenever we use these x-ray opaque substances we should make an effort at complete bronchial mapping in all five pulmonary lobes. New, rapidly absorbed substances, much more readily eliminated than the oily media, will soon be available and overcome the undesirable features of having x-ray opaque material remain in the lungs for extended periods of time.

Angio-cardiography is a newer, more formidable and risky clinical tool now coming into wider and more frequent usage. It must be performed under controllable circumstances by capable specialists in order to avoid potential difficulties and gain the desirable information. Such studies are indispensable in the diagnosis or confirmation of most congenital and even some of the acquired cardiovascular anomalies which now are amenable to surgery.

Aside from the laboratory and radiological methods, probably the most useful and frequently employed diagnostic means is endoscopy. Visualization of the air passages and the esophagus enables the experienced observer to reach rather accurate clinical conclusions. One may locate the specific source of bleeding or the site of a suppurative process, see and biopsy a tumor, or obtain secretions or lavage samples for bacteriological and/or cytological studies. Many times when the endoscopist does not actually see a specific lesion, he may make indirect observations incident to distortion, pressure, fixation or pulsations, and by inference gain valuable impressions concerning the lesions affecting the lungs, mediastinum, tracheo-bronchial tree and esophagus. Even such information is useful and sometimes a decisive factor, especially with reference to cancer. Bronchoscopy, much more so than esophagoscopy, is a diagnostic maneuver which is not resorted to as often as it should be in the investigation of causes of bloody expectoration, especially in the middle and older age groups, or in studying bronchial obstruction in patients of any age.

Physiochemical studies of cardio-pulmonary function are a most recent significant historical advent in the diagnostic and prognostic study in most of the diseases affecting the combined functional system of the heart and lungs. Without this aid (and in conjunction with angio-cardiographic studies) differentiation between certain lesions is impossible. Within a few years we will be able to avail ourselves of these rather complex, technical laboratory methods for diagnosis, estimates of progression of disease processes and of cardiopulmonary reserve, as well as a guide to the type and vigor of the therapeutic attack in medical regimens or the approach and extent of surgical intervention.

Even with the aid of accurate laboratory methods, in the diseases of the chest the most important acumen is the so-called sixth or clinical sense with which a given case problem is studied and solved. A proper scientific diagnosis may well be lacking or secondary to a proper recognition of the existence and effective treatment of what usually is basically a mechanical difficulty.

Let us return to a consideration of the value of x-rays. The very fact that many times the search for one lesion has demonstrated the unsuspected presence of another disease has led to the recognition and acceptance of the value of routine chest films. However, the most useful and practical method which has become available since World War II is mass roentgen-fluorophotography, using small film. At present there are stationary and mobile x-ray units which serve most communities in this and other states as survey services are being made available to all counties at regular and probably increasingly more frequent intervals. Interpretation of even such small films is surprisingly accurate and yields a rather amazing number of medically significant x-ray shadows which demand further studies. By this means, many unsuspected lesions are being discovered and reported to the private physicians of the subjects voluntarily examined. In this manner many an early and still asymptomatic pathological process has been detected which, if appropriately pursued by both patient and physician, affords an opportunity for investigation without unnecessary delay and the proper and probably more effective treatment whenever necessary.

Let us now consider some examples of the application of these methods to certain diseases, especially those where delayed or incomplete follow-up may well be very detrimental to the patient.

Tuberculosis, if only suspected, can usually be confirmed by x-ray and its activity determined, even in its earlier forms and phases, by generally available simple measures, including sputum examinations. A series or variety of sputum studies may be necessary before the tubercle bacilli are demonstrated. And the sooner they are, the sooner can we effectively treat the patient and control the hazard of spreading the disease. Probably the most treacherous and poorly understood problem is that of pleural effusion. This is because many times, even without interference from antimicrobial drugs, pleural fluid smears and cultures may not yield the suspected offending organisms. Yet, if possible, the diagnosis should be made early because we know that, especially without the proper precautions, patients with tuberculous pleural effusion, even without a demonstrable co-existent pulmonary parenchymal lesion, are very prone to develop tuberculous complications such as miliary dissemination or meningeal involvement. Also, beware of the "cold that lingers".

One should always remember that tuberculosis, more so than the chronic granulomata, can be very disconcerting in mimicking other diseases, especially cancer, and that they may co-exist. Currently we are faced with the necessity of differentiating it from the mycotic diseases. All of these entities carry a very serious diagnostic and prognostic implication so that errors must be avoided.

Intrathoracic malignancies pose the most challenging problem. Even the most remotely suggestive evidence of cancer should be followed to a definitive diagnosis with dispatch. Bronchogenic carcinoma is a notoriously treacherous and unpredictable tumor which, so very unfortunately, does not offer any consistently characteristic or diagnostic features. All too often the patient waits for several months before he seeks an explanation for the cause of whatever of a host of symptoms his particular cancer has developed. And it is also true that physicians frequently very innocently permit a further lapse of time while a certain obscure pulmonary lesion is being "observed for further developments". Then, very often, it may be too late.

Particular caution is advised regarding an unscientific attitude toward the so-called "smoker's cough", persistent "virus pneumonia" and the slowly resolving or unresolved pneumonitis. It has been pointed out that pulmonary lesions which are symptomatically still silent and were only discovered as a result of routine chest x-ray examinations and are then explored on the mere suspicion of an unconfirmed cancer, present a much more favorable prognosis (on the basis of a low incidence of local or regional lymphnode metastases and a much higher operability and resectability rate) than tumors which can be histologically proven before thoracotomy. Thus, we can justify such an aggressive attitude as not being a radical approach when we recommend prompt exploration for so treacherous a disease which seems to be on the march among men. This is further justified by decreasing risks for thoracotomy expressed by mortality and morbidity rates.

Other malignancies within the chest have the distinction of frequently presenting a benign picture clinically and by x-ray; or of being without a clue as to their identity, until they have been removed for study and their type and origin is determined.

If we ever are to curb the mortality due to cancer, we must preach and practice a policy of pursuit to a definite diagnosis and treatment without delay, even when that entails exploration, of every lesion that seriously raises the suspicions of malignancy.

Bronchiectasis is an irreversible chronic disease the symptoms of which can only be entirely eliminated by surgical extirpation of the involved lung segments. The symptoms are usually very suggestive and follow a rather definite pattern; and the diagnosis can easily be made today. If found not to be too extensive for resection, bronchiectasis can currently be treated and cured with much less surgical risk. Thus, debilitated, handicapped, chronically ill and ostracized patients can be given the chance for a longer life expectancy, social re-acceptance and the opportunity of being restored to useful citizenship and self-support by re-employment. Here the medical profession faces a great responsibility and also an opportunity of good public relations.

Cardiovascular Disease. No longer are patients with tetralogy of Fallot, pulmonic stenosis, coarctation of the aorta or persistent patent ductus arteriosus a group of people representing medical curiosities with a poor prognosis of reaching middle life with or without any earlier complications. And even individuals with acquired lesions such as aortic or major vascular aneurysms, arterio-venous shunts, mitral or aortic stenosis or regurgitation are now no longer beyond the possibility of relief, even though only by rather risky corrective surgical procedures. Better understanding of the function of the heart and lungs as a combined system and the previously mentioned measures have led to a more hopeful outlook for various lesions regardless of whether they are surgical or medical diseases. Some of the anatomical defects mentioned are very simply diagnosed and provide another real challenge in providing appropriate treatment wherever possible and an opportunity for a much better prognosis. In the cyanotic forms of such anomalies the defect may often not be correctible, but some palliative or remediable procedure is often possible. If recognized immediately and promptly treated many medical cardiovascular emergencies may now be much more effectively managed.

Adequate diagnostic measures are now at our disposal. People as individuals and employment groups have become increasingly health and disease-conscious. Educational drives by such organizations as the American Cancer, American Heart, National Tuberculosis and other societies have brought the disease problem sharply in focus for the lay population. Certain publications in lay journals have called attention to new diagnostic procedures. By virtue of all these trends and events, our present and prospective patients will make even greater demands on our professional ability, and especially of our diagnostic acumen. We must accept this challenge and practice what we preach and utilize our training and experience to the utmost for the mutual benefit of physicians and lay people alike as patients.

The development of modern concepts and methods for the diagnosis and treatment of diseases of the chest has opened new vistas with great promise for the increase in longevity and physical comfort by the preservation or restoration of health for our fellow citizens.

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REVIEW OF CESAREAN SECTIONS: 1947-1951

Mississippi Baptist Hospital, Jackson, Mississippi

WILLIAM B. WIENER, M.D., F.A.C.S.
Jackson, Miss.

Today cesarean sections are rather commonplace and with well trained anaesthetists and the widespread use of antibiotics and blood are almost as safe as a vaginal delivery. As their safety has increased, the indications for cesarean sections have become more liberal and likewise increased.

In order to see the trends at the Mississippi Baptist Hospital in Jackson, the charts of cesarean sections performed there from January 1, 1947 through December 31, 1951 have been reviewed.

The Mississippi Baptist Hospital has 264 beds and 49 bassinets with a yearly average admission of 13,213. Most of the patients are private, and there is an open medical staff. During the five years reviewed, there were 772 sections out of a total of 8,291 deliveries. (Table 1) The sections were done by 39 physicians, the most by one physician being 120.

Table 1.

Summary	1947	1948	1949	1950	1951	Total	%
Number of deliveries	1800	1674	1515	1596	1706	8,291	
Number of sections	176	165	139	158	134	772	
Percent of sections	9.7	9.9	9.0	9.96	7.85	9.3	
Maternal deaths	1	2	2	2	0	7	0.9
Fetal deaths	11	9	9	10	2	41	5.3
Stillbirths	5	7	5	3	1	21	2.6
Postpartal	6	2	4	7	1	20	2.5

There were seven maternal deaths and sixty one of the mothers had 100.6 degrees fever for two or more days. On the mother's charts, it was recorded that 21 babies were stillborn and 20 died soon after birth, (the new born charts were not reviewed).

The indications for the cesarean sections are listed in Table 2. As can be seen approximately half were either because of previous sections or feto-pelvic disproportion. Under the latter, are included those listed as fractured pelvis, deformed pelvis, funnel pelvis, large baby, small pelvis and the like. Under the heading Toxemia and Eclampsia, thirteen were sectioned with the only indication being eclampsia.

Table 2.

INDICATIONS	Total	Percent
Repeat sections		25.4
Contracted pelvis		24.8
Placenta praevia		6.5
Abruptio placenta		3.7
Toxemia and Eclampsia (13)		8.4
Dystocia		7.6
Abnormal presentation		3.0
Elderly primipara		3.6
Fibroids with abnormal presentation		1.4
Medical reasons		3.1
Breech presentation		6.9
Previous difficulty or perineal rigidity		1.7
Hyperemesis gravidarium		.3
Desires tubal ligation		1.0
Request of patient		.4
Rh factor		.3
Undetermined pain in region of right broad ligament		.1
Bandl's contraction ring		.1
Severe false labor one week		.1
Prolapsed cord		.1
Failed forceps		.1
Reason not stated		.4
Malformed fetus		.5

Four of the mothers with cesarean sections later delivered vaginally. Two after a section for "contracted pelvis" had a normal vaginal delivery. One after a section had a vaginal delivery and then had another section later. The fourth had her first child by section, the second vaginally and the third and fourth by cesarean section.

As seen in Table 4 the use of pentothal and from Table 3 that the low cervical type has gradually risen from 65.2% in 1947 to 79% in 1951 and accordingly the classical type has decreased. There was only one extra-peritoneal section done and sixteen sections with hysterectomy.

Table 3. Types with total and per cent

Years	Classical		Low cervical		Section and Hysterectomy		Unclassified		Extra Peritoneal	
1947	71	40.0	99	56.2	4	2.3	1	.6	1	.6
1948	67	40.6	93	56.4	5	3.0				
1949	21	22.3	105	75.5	3	2.2				
1950	34	21.0	123	78.0	1	.6	1	.6		
1951	25	18.7	106	79.0	3	3.3				
Total	228	29.5	526	68.0	16	2.0	2	.3	1	.1

Table 4.

Year	Pentothal		Spinal		Inhalation		Local	
1947	41	23.4	22	12.5	113	64.3		
1948	101	61.3	26	15.7	38	23.5		
1949	79	56.9	32	23.0	27	19.5		
1950	108	68.0	42	26.4	12	4.7		
1951	78	58.0	44	32.8	11	8.2	1	.7
Total	407	53.0	166	22.0	198	25.5	1	.1

The type of anaesthesia likewise has shifted. As seen in Table 4 the use of pentothal and spinal has increased while inhalation anaesthesia has decreased. Also slowly but surely spinal is replacing pentothal as the anaesthesia of choice.

Table 5 lists the parity of the patients and

Table 5.

	1947		1948		1949		1950		1951		Total	
Para 1	84	47.7	76	46.0	65	46.8	61	38.4	50	37.3	336	43.5
2	50	28.5	52	31.5	47	33.8	63	39.6	50	37.3	262	34.0
3	24	13.6	20	12.2	10	7.2	20	12.6	16	11.9	90	11.5
4-14	19	10.2	17	10.3	17	12.2	15	9.4	18	13.4	85	11.0

Table 6.

	Labor		x-rays		T'fusions.		Antibiotics	
1947	44	25.0	47	26.7	53	30.3	91	51.6
1948	41	24.8	34	21.1	61	35.8	76	46.0
1949	32	23.0	28	20.1	66	47.5	72	51.7
1950	43	30.0	31	20.1	85	53.5	98	61.6
1951	36	26.9	25	18.7	61	45.5	83	62.0
Total	196	25.0	165	21.0	326	42.0	420	54.0

Table 6 shows the number of patients in labor from mild to hard, those having x-rays as recorded on the chart, those receiving from 500 to 3000 cc. of whole blood, and the number given one form or another of the antibiotics.

There were seven maternal deaths. One of those should not be considered a true obstetrical death as the patient had rapidly spreading carcinoma of the colon. At 6½ months, when death seemed imminent a section was done in hopes of getting a living child. Unfortunately the baby did not survive.

Table 7.

Procedure	1947	1948	1949	1950	1951	Total	%
Tubal ligation	62	60	55	71	61	309	40.0
Appendectomy	7	4	6	10	3	30	4.0
Ovarian surg.	1	1		3		5	.7
Hysterectomy	4	5	3	1	3	16	2.0
Myomectomy	2	2	1	2		1	.1
Hemorrhoid'y				1		1	.1

In addition to the cesarean section, other surgical procedures were carried out. These are listed in Table 7.

Table 8.

Complications	1947	1948	1949	1950	1951	Total	%
Urinary	5	7	3	4		19	2.5
Thrombophlebitis				2	1	3	.4
Eviseration				1		1	.1
Septicemia				1		1	.1
Pulmonary embolism				1		1	.1
Post opr. hemorrhage					1	1	.1
Wound infection	2		1			3	.4
Peritonitis			1			1	.1
Endometritis					2	2	.3
Pneumonia	3	1	1		1	6	.8
F.U.O.	2		1			3	.4
Unknown		2				2	.3

And in table 8 the complications are listed.

Summary: The charts of those patients having cesarean sections at the Mississippi Baptist Hospital for the past five years have been reviewed. 9.3% of all deliveries were by cesarean section. The indications for the section, type of section and anaesthesia are listed.

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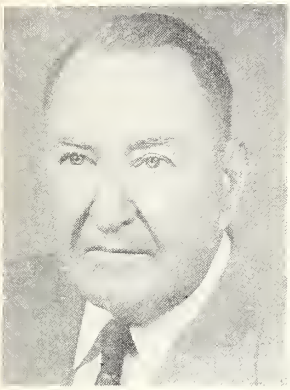
SOUTHERN MEDICAL ASSOCIATION
Next Meeting:
October 26-29, 1953, Atlanta, Ga.

Fifty Year Club Biographica

DUDLEY WATSON JONES


DR. JONES

On July 19, 1870, Dudley Watson Jones was born in Claiborn County, Mississippi.

In 1894, he graduated from the University of Mississippi and then taught school. In 1900, Doctor James graduated from the Tulane School of Medicine. After graduation, he did post-graduate work in New Orleans and New York, also in Chicago.

He located at Hermanville and in 1904 moved to Fernwood, later he located at Brookhaven and established the Brookhaven Sanitarium with Dr. J. H. Johnson; previously having served as surgeon for the Fernwood Lumber Company. When he located in Jackson in 1918, he began to specialize in pediatrics.

He served as president of the State Medical Association, and also as councilor for many years and likewise served as councilor for the Southern Medical Association. He was instrumental in having the Past-President's Club of the State Medical Association organized and has served as secretary since that time.

Doctor Jones was employed in public health at one time as State Sanitary Inspector from 1916 until 1917.

On September 6, 1949, the State Medical Association bestowed lifetime membership in the Fifty Year Club of the Association upon Doctor Jones.

Still active in the practice of medicine, Doctor Jones has made a lasting contribution to medical practice and has brought honor to the profession.

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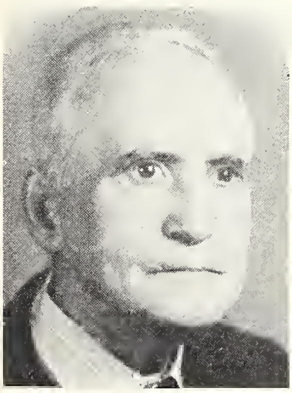
MOSE McCARLEY McMILLAN


DR. McMILLAN

On August 11, 1876, Mose McCarley McMillan, son of Robert Coleman and Julia Kendrick McMillan, was born in Booneville, Mississippi.

He received his medical education at the University of Nashville, graduating in 1899.

In 1903, he located in Bolivar County and returned to Lee County in 1905 where he has practiced continuously.

On September 14, 1948, the State Medical Association bestowed upon Doctor McMillan lifetime membership in the Fifty Year Club of the Association.

Doctor McMillan has enriched the practice of medicine by his contribution to the welfare of mankind and in service to the people of his community has brought honor to himself and the profession as a practitioner of medicine.

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FRANCIS MICHAEL SMITH

DR. SMITH

Francis Michael Smith, son of B. F. and Cassie Cottingham Smith, was born in Montgomery County, Mississippi, on March 17, 1879.

He attended the University of Kentucky Medical School and graduated from Memphis Hospital Medical School (University of Tennessee) in 1902. Following graduation he practiced in Clay County and later in Montgomery County.

Doctor Smith has served as secretary of the Clay-Oktibbeha Counties Medical Society, secretary of Winona District Medical Society, president of Issaquena-Sharkey Medical Society and president of the Mississippi Public Health Association.

For more than thirty years, Doctor Smith has been engaged in public health work. First, he served as field agent for the United States Public Health Service in Louisiana and Arkansas and later as Director of the Warren County Health Department on October 1, 1927, when the department was organized, and continues to serve in this capacity.

In September, 1952, the University of Tennessee honored Doctor Smith with a Certificate of Merit—fifty years following date of graduation. This same year, the Rotary Club of Vicksburg presented him lifetime membership.

On July 8, 1952, the State Medical Association honored Doctor Smith with lifetime membership in the Fifty Year Club.

Throughout Doctor Smith's professional life, he has rendered service to humanity as a private practitioner of medicine and public health medical officer and has accepted every challenge as presented. His life's dedication has been to high attainments in the field of service.

JOHN SUMMERFIELD SANDERS

(deceased)

DR. SANDERS

On May 3, 1872, John Summerfield Sanders was born in Carrollton, Mississippi.

On April 27, 1900, he graduated from Memphis Hospital Medical College, (University of Tennessee) and following this he located in Coffeeville and later in Charleston, 1907, Pascagoula, 1910, Beulah, 1917, and then in Leland in 1920, where he practiced until his death.

Doctor Sanders did postgraduate study at Tulane University and Vanderbilt University. At one time, he served as part-time county health officer. He was a charter member and also served as president of the Leland Rotary Club.

On February 3, 1950, the State Medical Association honored Doctor Sanders with lifetime membership in the Fifty Year Club of the Association.

A long and useful life spent in humanitarian service was closed on April 9, 1952 when Doctor Sanders passed away and was buried in the Stoneville-Leland cemetery in Leland, Mississippi.

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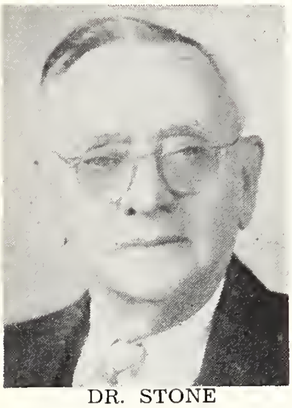
JOHN HENRY STONE

(deceased)



DR. STONE

On January 11, 1875, John Henry Stone, son of John Henry and Florence Cowden Stone, was born in Tremont, Mississippi.

He attended Oakland Normal Institute, received his B. S. degree from Mississippi State College in 1895 and later his M. D. degree (with honor) from Vanderbilt in 1899. Following this, he did special study at Tulane University in EENT. A real community leader, Doctor Stone served as president of the Board of Trustees of Tremont School for thirty years, and it was largely through his efforts that the Tremont High School was established on a consolidated basis. He also served as a member of the Methodist Board of Trustees for more than twenty years and also as a member of the Board of Stewards.

At one time, Doctor Stone served as county health officer. As a member of the Legislature, he served on the Education, Health, and Finance Committees.

In 1947, Doctor Stone was awarded the county-wide good citizenship award by the Itawamba County Times and the Fulton Lion's Club. At that time, it was pointed out that he had delivered more than 3,000 babies.

There has been a "Dr. Stone" practicing medicine at Tremont for the past 100 years. Dr. Stone was preceded by two uncles—one of whom practiced there before the Civil War.

Doctor Stone was made a member of the Fifty Year Club of the State Medical Association in the fall of 1950 but the certificate was not awarded until December 12, 1950, several months after his death.

On August 1, 1950, Dr. Stone passed away in Tupelo and was buried in the Tremont Cemetery at Tremont.

The contribution made by Doctor Stone in service to humanity will live for many years in the hearts of the people he served as well as in the memory of his professional associates.

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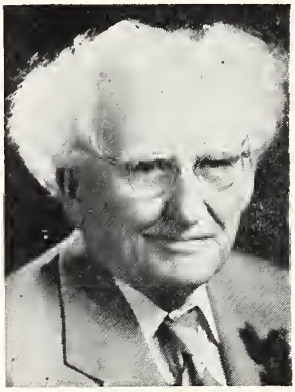
GILES SANFORD BRYAN



DR. BRYAN

On April 14, 1863, Giles Sanford Bryan was born in Amory, Mississippi.

He attended the University of Mississippi and later received his M. D. degree from Memphis Hospital Medical College (University of Tennessee) in 1888.

Following this, he located at Amory in Monroe County where he has practiced continuously.

Doctor Bryan served as president of the State Medical Association and as member of the State Board of Health (1908-1915) and also as president (1912-1915).

For fifty years of continuous practice, Doctor Bryan was awarded lifetime membership in the Fifty Year Club of the State Medical Association on February 1, 1948.

Throughout his many years of service, Doctor Bryan has contributed to his fellowman and to the tradition of medicine in Mississippi by his various activities carried out over a long period of time. He still maintains an active interest in medicine and public health.

JOHN GARNER BACKSTROM

DR. BACKSTROM

On December 1, 1874, in Richburg, South Carolina, John Garner Backstrom, son of John Thompson and Lucy Ivy Backstrom, was born.

In 1898, he graduated from Louisville Medical College (University of Louisville).

In the first World War he served as first lieutenant and captain in the medical corps.

Since 1912, he has served as District Surgeon, ICRR.

Following graduation, Doctor Backstrom located at Sumner (March 1899) and at Tutwiler in 1903 where he has practiced since that time.

On August 18, 1949, the State Medical Association bestowed upon Doctor Backstrom lifetime membership in the Fifty Year Club of the Association.

For many years, he has served faithfully and well—and is held in high esteem by people from all walks of life in his community as he daily reflects honor upon the medical profession.

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GEORGE BASKERVILL

DR. BASKERVILL

On April 20, 1877, in Mecklenburg County, Virginia, George Baskervill, son of Dr. Robert D. and Bettye Alexander Baskervill, was born.

He attended Virginia Polytechnic Institute, where he received his B. S. degree in 1898. In 1901, he received his M. D. degree from Tulane University. Following graduation, he took postgraduate work at Mayos.

After graduation, he located in Winona where he remained until he entered the World War. He served as a major in the Medical Corps of the Army in World War I. After returning, he located in Greenwood and has remained there.

In June, 1951, Tulane University awarded him a Fifty Year Certificate.

Doctor Baskervill serves as senior member of the staff, Greenwood Leflore Hospital and junior warden of the Episcopal Church. He served as President of the Delta Medical Society and also as county health officer in Montgomery County for several years.

On May 1, 1951, Doctor Baskervill was honored with lifetime membership in the Fifty Year Club of the State Medical Association.

Still active in the practice of medicine, Doctor Baskervill is daily making his contribution to humanity as he continues to serve faithfully and well and reflects honor upon the profession.

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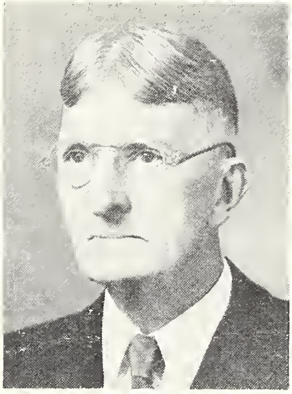
SAMUEL EDWARD IZARD
(deceased)


DR. IZARD

On December 28, 1870, in Wesson, Mississippi, Samuel Edward Izard, son of Jesse Venson and Sara Jane Izard, was born.

He attended the Normal College at Lexington, Mississippi, and later taught school three years before entering the University of Nashville from which he graduated in 1900.

For thirty years, Doctor Izard was a member of the New Hebron School Board and served as President and Secretary. He also served as a member of the Lawrence County School Board for many years. In 1949, he served as President of the Tri-County Medical Society.

Doctor Izard was a charter member of the New Hebron Baptist Church and served on the Selective Service Board during World War II.

For 49 years, he practiced medicine in New Hebron; one year in Silver Creek and two years in Hazlehurst.

On September 17, 1949, the State Medical Association honored Dr. Izard with lifetime membership in the Fifty Year Club of the State Medical Association.

For a long period of time, he served humanity faithfully and well and brought honor to the profession.

On February 4, 1952, Doctor Izard passed away in New Hebron, and was buried in the New Hebron Cemetery, New Hebron, Mississippi.

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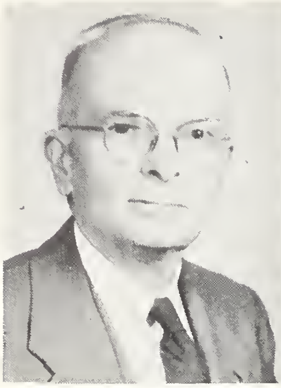
HIRAM GRIFFITH WILLIAMS

On April 3, 1875 in Covington County, Mississippi, Hiram Griffith Williams, son of Isaac Milton and Betty Pope Williams, was born.

In 1895, he entered Mississippi A and M College, now Mississippi State. Then he taugh school for three years in Covington County.

In 1902, he graduated in Medicine and Pharmacy from the Atlanta College of Physicians and Surgeons now Emory University. That year


DR. WILLIAMS

he began practicing medicine in Mt. Carmel and later, in 1906, began practicing in Prentiss County. In 1925, he was selected by the Alumni Council of Emory for a new diploma. This honor was bestowed because of the work Dr. Williams had one as undergraduate student and for the success he had attained in the medical profession since graduation.

Doctor Williams served as examining physician for Jefferson Davis County during two World wars. He also served as county and city health officer for many years.

He contributed time and effort toward bringing the Mississippi Central Railroad through Prentiss; to a good roads program; to the organization of Jefferson Davis County, to improving health conditions and better education. He served on the Board of Aldermen and the school board.

On June 23, 1952, the State Medical Association honored Doctor Williams with lifetime membership in the Fifty Year Club.

Doctor Williams has made medical and public health history by his day by day service to his fellowman and continues to contribute to the tradition of medicine in Mississippi.

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JOHN THOMAS LONGINO

DR. LONGINO

On January 9, 1872, John Thomas Longino, was born at Silver Creek, Mississippi.

In May, 1898, Doctor Longino graduated from Louisville Medical College winning third honors and medal in competitive examination.

He served as health officer of Coahoma County for 4 years, as President of the Board of Trustees, Jonestown Consolidated School for about 30 years and also as a member of the Board of Aldermen of Jonestown for several years.

For more than thirty years, Doctor Longino taught a Bible class at the Baptist Church.

After graduation, Doctor Longino began the practice of medicine in Jonestown in May, 1898.

On August 15, 1948, he was honored with lifetime membership in the Fifty Year Club of the State Medical Association. He has served his fellowman faithfully for many, many years and his contribution to the practice of medicine day by day brings honor to him as well as to the profession.

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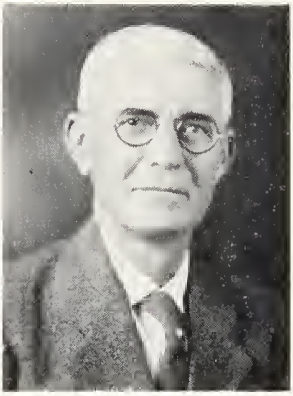
GEORGE WASHINGTON ROBERTSON
(deceased)


DR. ROBERTSON

On October 17, 1872, George Washington Robertson, son of John Regan and Rhoda Ellis Robertson, was born in Hazlehurst, Mississippi.

He attended school in Hazlehurst and later graduated from Vanderbilt Medical School in 1897.

After graduation, he began the practice of medicine in Rosetta and in 1899 moved to Magnolia, Mississippi.

He served as a member of the city board of aldermen, member of the Board of Directors of the Citizen's Saving Bank, chairman of the Board of Stewards of the Methodist Church and also of the Board of Trustees.

He was a member of the Masonic Order, 32nd degree Mason. He served as Treasurer of the Local Lodge for more than 20 years. Also, he served as county health officer and on the staff of the Illinois Central Railroad for many years.

He served as chief of staff, Beacham Memorial Hospital, Magnolia.

On May 15, 1949, the Fifty Year Club of the State Medical Association honored Doctor Robertson with lifetime membership.

In the great humanitarian service rendered by Doctor Robertson, he honored his profession and brought honor to himself.

On August 6, 1951, Doctor Robertson passed away in Magnolia, Mississippi, and was buried in the Magnolia Cemetery.

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MISSISSIPPI STATE MEDICAL ASSOCIATION

Eighty-fifth Annual Meeting
Biloxi - May 12, 13, 14, 1953
House of Delegates Meets May 11, 1953

NEW DRUGS NEW DEVICES NEW DIGESTS

NEW PRODUCT: MENAGEN WITH METHYLTESTOSTERONE, (oral estrogen - androgen, Parke-Davis) is an estrogen-androgen combination for therapy in oral form. Each capsule contains Menagen equivalent to estrogenic activity of 10,000 I.U. ketohydroxyestratriene, and 10 mg. methyltestosterone.

WHAT IT'S FOR: Menagen with methyltestosterone is used orally for the relief of climacteric symptoms in patients of either sex.

HOW SUPPLIED: It is supplied in soft gelatin capsules, in bottles of 100 capsules.

WHO MAKES IT: Parke, Davis and Company, Detroit.

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NEW PRODUCT: MYADEC is a comprehensive nutritional aid. Each capsule contains nine vitamins and 11 minerals:

VITAMINS	
Vitamin B_{12} Crystalline	5 mcg.
Vitamin B_2 (Riboflavin)	10 mg.
Vitamin B_6 (Pyridoxine Hydrochloride)	2 mg.
Vitamin B_1 Mononitrate	10 mg.
Nicotinamide	100 mg.
Vitamin C (Ascorbic Acid)	150 mg.
Vitamin A	25,000 units
Vitamin D	1,000 units
Vitamin E*	5 I.U.
MINERALS*	
Iodine	0.15 mg.
Manganese	1.0 mg.
Cobalt	0.1 mg.
Potassium	5.0 mg.
Molybdenium	0.2 mg.
Iron	15.0 mg.
Copper	1.0 mg.
Zinc	1.5 mg.
Magnesium	6.0 mg.
Calcium	105.0 mg.
Phosphorus	80.0 mg.

WHAT IT'S FOR: Myadec provides the essential and important vitamins in therapeutic potencies, and significant quantities of important minerals together with trace elements for nutritional supplementation. For correction of poor nutrition, for prevention of vitamin-mineral deficiencies, to shorten convalescence,, and to support growth.

HOW SUPPLIED: In soluble gelatin capsules in bottles of 100 and 1,000.

WHO MAKES IT: Parke, Davis and Company, Detroit.

NEW PRODUCT: THEELANDROL (theelin-testosterone propionate aqueous suspension, Parke-Davis) is a combined estrogen-androgen preparation for intramuscular use. Each cc. contains 2 mg. of theelin and 20 mg. of testosterone propionate.

WHAT IT'S FOR: Theelandrol is used for the relief of climacteric symptoms in patients of either sex. It provides both estrogen and androgen for adjustment of hormonal defiency states, minimizing undesirable activity and enhancing the sense of well being.

HOW SUPPLIED: Theelandrol is supplied in 5 cc. steri-vials, each cc. of which contains 2 mg. of theelin and 20 mg. of testosterone propionate.

WHO MAKES IT: Parke, Davis and Company, Detroit.

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NEW PRODUCT: CALADRYL in cream form contains one per cent Benadryl hydrochloride (diphenhydramine hydrochloride, Parke-Davis), calamine, camphor, together with other ingredients to provide a convenient water-miscible cream.

WHAT IT'S FOR: Caladryl provides relief of burning and itching associated with light sunburn, diaper and cosmetic rashes, hives, mild poison oak and poison ivy, insect bites, chicken pox and minor skin infections.

HOW SUPPLIED: Caladryl Cream, which has smooth, rich consistency, is supplied in 1½-ounce collapsible tubes. (Also available in lotion form in six-ounce bottles.)

WHO MAKES IT: Parke, Davis and Company, Detroit.

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NEW PRODUCT: BENADRYL WITH HYOSCINE is a combination of two active medicaments valuable in prevention and treatment of motion sickness and in treatment of parkinsonism. Each tablet contains Benadryl hydrochloride (diphenhydramine hydrochloride, Parke-Davis), 25 mg. and hyoscine hydrobromide, 0.325 mg.

WHAT IT'S FOR: Benadryl with hyoscine is used for the prevention or relief of the nausea and vomiting of motion sickness in travelers by air, sea or land. The combination is valuable for relieving the symptoms of parkinsonism to a degree that often increases the patient's capacity for useful work.

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* Supplied as mixed tocopheryl acetates, potassium iodide, manganese sulfate, cobalt sulfate, potassium sulfate, sodium molybdate, ferrous sulfate, copper sulfate, zinc sulfate, magnesium sulfate, dicalcium phosphate.

HOW SUPPLIED: Benadryl with hyoscine is supplied in sugar-coated tablets, in bottles of 100 tablets.

WHO MAKES IT: Parke, Davis and Company, Detroit.

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NEW PRODUCT: Natabec, a vitamin-mineral combination especially adapted as a dietary supplement during pregnancy and lactation. Each kapseal represents:

Dicalcium Phosphate (anhydrous)	500 mg.
Ferrous Sulfate	75 mg.
Vitamin B_{12} (crystalline)	2 mcg.
Folic Acid	1 mg.
Synkamin (Vitamin K) (as the hydrochloride)	5 mg.
Rutin	20 mg.
Vitamin A	4000 units
Vitamin D	400 units
Vitamin B_1 (Thiamine hydrochloride)	3 mg.
Vitamin B_2 (Riboflavin)	2 mg.
Nicotinamide (Niacinamide)	10 mg.
Vitamin B_6 (Pyridoxine hydrochloride)	1 mg.
Vitamin C (Ascorbic Acid)	35 mg.

WHAT IT'S FOR: Natabec is a combination of vitamin and mineral factors most essential to adequate nutrition in pregnancy and lactation. It contributes to freedom from complications, to easier delivery, and to better health for patient and child.

HOW SUPPLIED: In kapseals in bottles of 100 and 1,000.

WHO MAKES IT: Parke, Davis and Company, Detroit.

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NEW PRODUCT: Vi-Lin Drops, potent liquid multivitamin product for infants and growing children, easy to mix in milk, cereal or fruit juice.

WHAT IT'S FOR: Formula supplies a well-balanced dietary supplement containing six important vitamins — A, D, B_1, B_2, C and Nicotinamide. The vitamin A is synthetic, the vitamin D is provided by viosterol—thus obviating fishy odors and flavors or allergic reactions. Vi-Lin Drops won't curdle milk, clog the nipple or alter taste or appearance. Special dropper is calibrated at 0.3 cc. and 0.6 cc. to facilitate measuring the exact daily dosage.

Each 0.6 cc. contains:

Vitamin A (synthetic)	5000 U.S.P. Units
Vitamin D	1000 U.S.P. Units
Thiamine MCl	1.5 mg.
Riboflavin	0.8 mg.
Nicotinamide	10 mg.
Ascorbic Acid	50 mg.

HOW SUPPLIED: 15 cc. and 30 cc. bottles with graduated dropper.

WHO MAKES IT: Abbott, North Chicago, Ill.

NEW PRODUCT: Bevidox Crystalline Sterile Solution, 100 Mcg. Per cc.

WHAT IT'S FOR: Bevidox crystalline sterile solution provides massive dosages of vitamin B_{12}, 1000 mcg. per cc., for treatment of pernicious anemia in relapse and several types of neurological disease. Owing to the relatively low content of solids, there is no pain after injection. Of benefit in trigeminal neuralgia, diabetic neuritis, herpes zoster and the pain of neuritis associated with chronic alcoholism and diabetes mellitus.

ADMINISTER BY subcutaneous, intramuscular or intravenous injection. Usual dose is 1000 mcg. daily for 5 to 10 days. In some patients, subsequent injections are given once or twice weekly for two or three weeks.

HOW SUPPLIED: In 5 cc. multiple-dose vials.

WHO MAKES IT: Abbott, North Chicago, Ill.

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NEW PRODUCT: Erythrocin, a new antibiotic effective orally against a wide variety of organisms, especially against gram-positive organisms but also against certain gram-negative ones.

WHAT IT'S FOR: Orally effective for treatment of infections such as pharyngitis, tonsillitis, scarlet fever, erysipelas, pneumococci pneumonia, osteomyelitis, pyoderma and others produced by susceptible organisms. The latter include staphylococci, streptococci, pneumococci, H. influenzae, H. pertussis and corynebacteria. Erythrocin is especially indicated for infections produced by organisms which have lost their susceptibility to penicillin or to other antibiotics.

DOSAGE: Total daily dose is 0.8 to 2 gm., depending on severity of the infection. In many cases of pneumococcal pneumonia a total daily dose of 0.4 gm. is adequate. For the average adult, an initial dose of 0.1 to 0.4 gm. is followed by doses in the same range every four to six hours. With severely ill patients, doses up to 0.5 gm. may be repeated at six-hour intervals if necessary. Dosage for children has not yet been determined.

HOW SUPPLIED: In bottles of 25 specially-coated tablets, 0.1 gm.

WHO MAKES IT: Abbott, North Chicago, Ill.

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NEW PRODUCT: Isolyn (Isoniazid, Abbott). Isonicotinic Acid Hydrazide, 50 mg., grooved tablets.

WHAT IT'S FOR: As an adjunct to treatment of streptomycin-resistant tuberculosis or tuberculosis not responding to previous therapy, primarily employed where prolonged medical and surgical treatment have failed to check downhill course of chronic or far-advanced cases. Good results in miliary and meningeal tuberculosis. Tuberculosis of bone and joint favorably affected. Offers a possibility of preserving life where prognosis heretofore has been poor.

DOSAGE: In divided dosage after meals, (2 to 4 mg. per kilogram of body weight per day with a maximum of 150 to 200 mg. per day). In acute forms of the disease such as miliary or meningeal tuberculosis, doses of up to 7 mg. per kilogram of body weight per day may be given for not more than 7 to 10 days.

CONTRAINDICATIONS: Low doses must be employed and adequate laboratory facilities used to detect undue cumulative effects in patients with impaired renal function. The drug may intensify convulsive disorders. Epileptic patients must be given suitable anticonvulsive agents before and along with Isolyn.

HOW SUPPLIED: As tablets in bottles of 100 and 1000.

WHO MAKES IT: Abbott, North Chicago, Ill.

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NEW PRODUCT: DODECAVITE CRYSTALLINE. A clear, stable, isotonic saline solution of vitamin B_{12} crystalline, 1000 micrograms (1 mg.) per cc., for intramuscular or subcutaneous injection.

WHAT IT'S FOR: In the treatment of subacute combined sclerosis, diabetic neuritis, herpes zoster, tabes dorsalis, peripheral vascular disorders, and certain other neural conditions. No toxic or allergic reactions manifested to date.

ADMINISTRATION: 1000 mcg. by intramuscular or subcutaneous injection every 5 to 10 days followed, if necessary, by an injection once or twice a week for another 2 or 3 weeks.

HOW SUPPLIED: Dodecavite Crystalline — 5 cc. vials.

WHO MAKES IT: U. S. Vitamin Corporation.

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NEW PRODUCT: AQUASOL E. Capsules providing 30 and 100 mg. of aqueous alpha-tocopherol; Drops 50 mg. of dl, alpha-tocopheryl acetate in aqueous solution. More rapidly absorbed, more fully utilized than E in oil solution.

WHAT IT'S FOR: Threatened and habitual abortion, the menopause, fibrositis, amyotrophic lateral sclerosis; selected types of peripheral vascular disease such as indolent leg ulcers, thrombophlebitis, thromboangiitis obliterans, stasis ulcers, stasis dermatitis, lupus erythematosus, and for adjunct treatment of diabetes.

ADMINISTRATION: 30 to 150 mg. daily or more as indicated.

HOW SUPPLIED: Aquasol E Capsules — bottles of 100, 500 and 1000. Aquasol E Drops — bottles of 15 cc. and 60 cc. with dropper.

WHO MAKES IT: U. S. Vitamin Corporation, New York.

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NEW DEVICE: Ille Hydromassage Subaqua Therapy Units, accepted by the American Medical Association's Council on Physical Medicine and Rehabilitation.

WHAT IT'S FOR: The Ille Units are devices designed to permit immersion of the patient's extremities in warmed, agitated water. The November 29, 1952 issue of the *Journal of the American Medical Association* lists the following models under "Apparatus Accepted": Model HM-300, for arm or leg, mobile; Model HM-400, for arm (Titus), mobile; Model HM-500, for arm stationary; Model HM-600, for arm, leg, or hip, stationary; Model HM-601, for arm, leg, or hip, stationary. A model similar to HM-600, but mobile rather than stationary, was previously accepted by the Council under the name of the Ille Portable Underwater Therapy Tank with hydromassage.

All these models have the same type of electric turbine ejector and aerator driven by a 1/3 horsepower motor.

WHO MAKES IT: Ille Electric Corporation, Freeport, L. I., N. Y.

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NEW PRODUCT: NATALINS, a new prenatal nutrient capsule. The intensive survey among physicians revealed that large size and large dosage were the most frequent deterrents to patients' continued use of most prenatal capsules.

WHAT IT'S FOR: Provides generous amounts of vitamins and minerals, Natalins are exceptionally small and easy to swallow. The dosage is small too . . . only 3 capsules daily. Available in bottles of 100 capsules.

WHO MAKES IT: Mead Johnson and Company, Evansville, Ind.

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NEW PRODUCT: VALOCTIN.

WHAT IT'S FOR: Valoctin Therapy in Functional Dysmenorrhea — Leopold Z. Goldstein, M.D., (Philadelphia, Pa.):

"One of the most common afflictions encountered in gynecologic practice is dysmenorrhea. In functional dysmenorrhea, pain and distress are practically always accompanied by nervous tension. Therapy must, therefore, be directed toward the relief of both the spastic uterine contractions and nervousness. Because stimulation of the sympathetic fibers causes relaxation of smooth muscle it seemed logical to use a sympathomimetic drug to relax the spastic uterine walls. The author employed combined anti-spasmodic-sedative therapy for the pain associated with the menstrual flow. Since the sympathomimetic spasmolytic, octin, had been reported to be effective in primary dysmenorrhea, it was felt that Valoctin which contains a sedative in addition to this spasmolytic, might be even more so. At the onset of the distress, or even at the time when the patient first felt uncomfortable, 1 or 2 tablets of Valoctin were given. Depending on the severity of the symptoms the medication was repeated at intervals of one to three hours until relief was obtained or six doses had been given. Of the 36 patients treated, more than 80 per cent were improved and 66 per cent were completely relieved. Judging from the results obtained in this small series of cases, the author feels that Valoctin may offer a simple and effective therapy for functional dysmenorrhea. Side reactions with the described method of treatment seem to be few and of minor importance."

WHO MAKES IT: Bilhuber-Knoll, Orange, N. J.

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NEW DEVICE: THE IMPERIAL, new concept in x-ray equipment, based on entirely different principles of engineering design in that the table, instead of angulating on two pivot supports, as hitherto, rotates through 180° on a ring approximately 8 feet in diameter.

The new design cuts off an average of 540 to 675 cubic feet per x-ray room, as compared with conventional apparatus offering the same facilities. All the activity is concentrated within the one central ring area of the new x-ray machine, eliminating the two side working areas formerly required. At the current average construction cost of $2.10 per cubic foot, the overall saving per x-ray room would range from $1,134.00 to $1,417.00.

The new design makes life much easier for the busy doctor and technician as follows: After guiding a patient fluoroscopically into the exact vertical position to demonstrate the internal disorder, he can, without moving the patient, record on x-ray film at any distance up to 6 feet what he has just seen during fluoroscopy.

WHO MAKES IT: General Electric X-Ray Department, Milwaukee, Wis.

NEW PRODUCT: NEOSONE Opthalmic Ointment, a brand of neomycorsone, is a well-tolerated ophthalmic ointment, containing in each gram:

Cortisone Acetate	15.0 mg.
Neomycin Sulfate	5.0 mg.

(Equivalent to 3.5 mg. neomycin base)

The ointment base melts rapidly at the temperature of the eye and mixes readily with tear secretions. This promotes rapid spread of the finely-divided particles of cortisone and neomycin.

WHAT IT'S FOR: Neosone has a dual action. Cortisone applied locally relieves inflammation and is the therapy of choice in inflammatory conditions affecting the anterior segment of the eye. Neomycin prevents or combats infection, has a wide range of antibacterial activity, is antibacterial in low concentrations, and is not inactivated by exudates. Neosone is well tolerated and relieves the inflammation caused by allergy, trauma and infection, as well as attacking the organisms responsible for infection. It is indicated in the treatment of various forms of conjunctivitis, keratitis, marginal ulceration, and mechanical, thermal or chemical trauma.

Neosone is applied to the eye three or four times daily.

HOW SUPPLIED: One dram tubes, with applicator tip — $1.88. (Federal law prohibits dispensing without prescription.)

WHO MAKES IT: Upjohn Company, Kalamazoo, Mich.

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NEW DIGESTS: From Pediatric Literature, reviewed by Harvey F. Garrison, M.D., Jackson, Miss.

THE LATENT HEMOLYTIC SYNDROME AND LEUKEMIA WITH SPLENOMEGALY. R. Berlin, Upsala, Sweden. Acta med. scandinav. 139:331-40, April 30, 1951.

"A short survey of the symptomatology of the acquired forms of hemolytic anemia with special stress on the survival time of transfused red blood cells in these cases is given. The author shows that in certain conditions, there is a latent hemolytic syndrome. This may be present in a number of different forms of splenomegaly and also in the splenic leukemias. In these cases there is sometimes no clinically distinct hemolytic syndrome such as is found in other hemolytic anemias. The hyperhemolysis can only be demonstrated through the presence of constant reticulocytosis and urobilinuria and by carrying out determinations of the survival time of the red blood cells. The survival time was greatly reduced in all ten cases of leukemia associated with enlargement of the spleen and in one case of Felty's syndrome. The determinations were carried out by a modification of Ashby's differential agglutination method (Dacie and Mollison). One patient with myeloid leukemia was splenectomized and showed after the operation a normal survival time for the red blood cells; the anemia also disappeared, the white blood picture became more normal and the patient's general state of health improved considerably. The indications for splenectomy in the treatment of splenic leukemia are discussed on the basis of the results achieved."

COMMENT: This is a rather interesting article from the standpoint of blood study and something new on the leukemias. It is our opinion that there would have to be proper screening of these cases and definite selecting of the ones who were particularly adapted to this type of surgery before one could evaluate such treatment.

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Progress in Medical Services and Facilities

GUEST EDITORIAL
State Medical Journal (*Mississippi Doctor*)

FELIX J. UNDERWOOD
State Health Officer

Medical progress has been made so consistently and in so many different directions in our state during recent years that it is well for us to pause a moment to recognize the progress. Among the significant advances in medical progress made in the state during the past eight years are the hospital building program, the county health department building program, provision for a four-year medical school and teaching hospital, establishment of the Southern Regional Education Board, provision of a State Medical Education Board, and availability of private physicians.

The hospital building program has now achieved about one-half of its original objective. The whole program might have been completed had the steel strike and the shortage of building materials needed for military requirements not occurred. Fifty hospitals have been completed, are under construction, or have had plans approved for construction. These hospitals are the property of the county in which they are located. Many of them are twenty-five and fifty-bed hospitals and together with the other hospitals will bring these needed facilities within approximately twenty miles of every home in the state.

The county health department building program has also added to our medical resources, especially in the rural districts. Fifty of these buildings have been completed or are in the planning stage. In the towns where office space suitable for carrying on a modern medical practice was not available, such space was provided in these new health center buildings. These offices, in which local physicians carry on their private practice, are equipped with modern x-ray apparatus, small clinical laboratory, etc.

The effect of these facilities on recent medical graduates is quite gratifying. In 1951, forty-eight physicians located in towns with an average population of 2,100. The average age of these physicians was thirty-four years. It would seem that having the physical facilities available for the modern practice of medicine has been a factor in getting this favorable age group into communities which have the greatest need for young active physicians.

The new four-year medical school and teaching hospital represent, of course, the principal wellspring from which our medical talent of the future will come. Contracts have been let and active construction will begin before the new year. The contractors have stated that the building should be completed and ready for use in two years. In addition to supplying our needed young medical talent, the medical school and teaching hospital will probably make training available for nurses, laboratory and x-ray technicians, physical therapists, and other allied medical workers.

The State Medical Education Board has been financing promising young medical students for the past six years. During this period, no white or Negro medical student qualified to enter a Class A medical school has been denied that opportunity for lack of money.

It is hoped and expected that soon the repayments made to the loan fund by former grantees will be sufficient to supply the needs of entering students. A revolving fund will thereby be created in which practicing physicians who have benefited by the fund will be repaying the money which will give other worthy and aspiring young people the same opportunity for a medical education that they have had.

Three hundred seventy-six Mississippians have been aided by this program. Twelve of them have been women. Approximately 250 are now in medical school or in hospital training. Approximately 100 have returned to this state and are in private practice. They are located in communities which have an average population of

(Continued on page 278)

The Mississippi Doctor

The journal with a vision which encourages a plan of delivering modern medicine to the masses at less cost to the individual and more profit to the practitioner. It champions the community hospital, the hub around which this service must be built.

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Editorials

GROUND-BREAKING A GREAT DAY

The ground breaking for the four-year medical school at Jackson on December 5, 1952 was a history-making event in our state. The invocation, by Dr. G. Y. Gillespie, president of Bellhaven College, gives us a vision of what we hope this medical school will ever keep before it as an ideal. The medical profession has a great challenge and a great opportunity. Its chief purpose would be to build human assets physical, mental, and spiritual, build them into a citizenship adequate to meet all human needs.

Former Governor Fielding Wright's address is a masterful review of the general progress in our state. He traces the march of medicine, especially on the state level. The provision for this school was a major achievement in Governor Wright's administration.

During the building and the setting in motion of this great institution we are most fortunate in having Governor Hugh White as our chief executive. He did a wonderful work in helping to secure the school while a member of the legislature. He will now guide it safely through to a successful opening. Few men in this nation have the all 'round building vision and the practical application to make his dreams come true as does Governor White.

We must not forget to be grateful to others who had a hand in the establishment of this four-year medical school in and out of the legislature. These in the main have been mentioned by Governor Wright in his address. Personally we are grateful to Campbell, Bullard, McCoy, Johnson, Womack, Mrs. Price, Dr. Henry and others. The State Medical Association and the Auxiliary served well. Drs. Underwood, Boswell, and Caldwell did fine work. The most powerful influence perhaps came from the rank and file of the people throughout the state. They decided we needed a four-year medical school. In this project there is glory enough for all and we believe that every person in this state is now behind this great school with an unselfish vision of its great potential for service.

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ELLISVILLE STATE SCHOOL

You will note in this issue of the journal an illuminating report of our Ellisville State School for the feeble minded. Dr. R. B. Caldwell, one of the trustees, secured this information for us from the director, Mr. Blackledge. Every member of the profession should be interested deeply in this school and should be very proud of the work it is doing. Every citizen should have an interest in it. This institution is serving a worthy purpose and it seems that it is doing an extraordinary job.

Valuable medical research has been carried on in this institution. A study of Endamoeba histolytica was made in the institution and several drugs were tested out in treating the large number infected. The results of this study by Dr. William A. Sodoman and Paul C. Deaver, Ph D. were published in the *American Journal of Medicine.* Four amebicidal drugs were evaluated in the treatment of three hundred and fifty individuals in this group.

It is remarkable how these subnormal mental cases have been trained to take care of themselves and many to do useful work enough for self support. This is a great service to human society in our state.

This institution, unsung, operates at a very modest cost. About $1.60 is the cost per patient per day. The personnel and ordinary upkeep is figured in this, but not new buildings. The institution has a fine farm of about 2600 acres, 165 head of dairy cattle, 70 head of beef cattle, a fine supply of hogs, three large silos, 220 acres of winter pasture. It thus supplies its own meat and milk and vegetables for winter and summer.

We wish to congratulate the director of this institution and his staff and the trustees who are working hard to give our state the most creditable record in this field in the nation.

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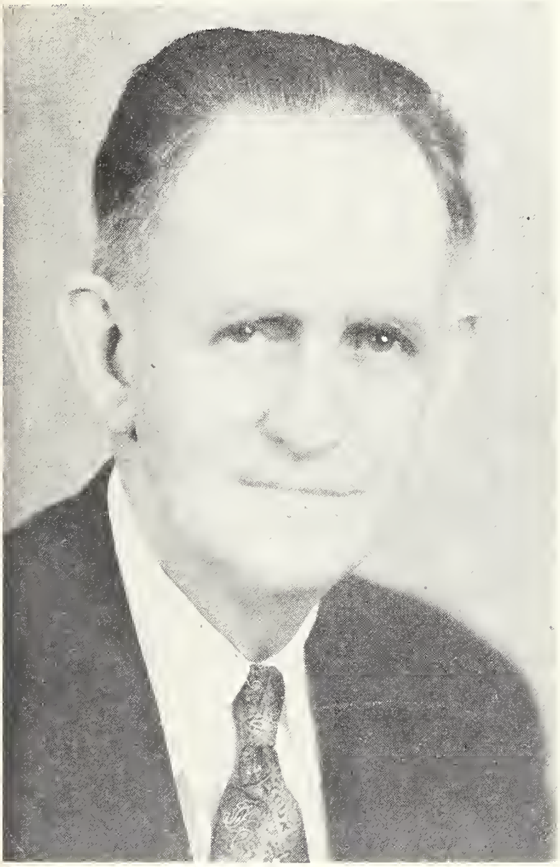
INVITATION FROM THE PRESIDENT OF THE MID-SOUTH MEDICAL ASSEMBLY



H. T. SMITH, M.D.
McGehee, Ark

The meeting of the Mid-South Medical Assembly is near at hand, February 10, 11, 12, 13. Engage your room at the Peabody, headquarters hotel. We have a fine program prepared. Our Mid-South is one of the very first, perhaps the first to offer such a fine course of lectures. This Association brings a review of the latest and the best in medicine and surgery in four days and nights. You can ill afford to miss this meeting.

The headquarters hotel gives excellent service in a cordial and friendly manner. The doctors of Memphis are among the most cordial to be found anywhere. Memphis has a fine medical atmosphere. It is growing at a rapid rate as a great medical center. Its medical school is superior and its hospitals are fine. In Memphis one feels the heart throb of progress in every way.

We hope that all the past presidents will be present. A dinner is planned for you. You are valuable to this assembly. We want your help, your good will, your cooperation and above all your presence.

I am grateful for the honor of being president of this great assembly. We acknowledge the fine work of our splendid secretary, Dr. Thurman Crawford, and that of the program committee. With the help of one and all we hope to make this the very best session this great association has ever had.

Signed, H. T. Smith, M.D., President.

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NEW ORLEANS GRADUATE ASSEMBLY

Municipal Auditorium, March 2-5, 1953

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PLAN CANCER CAMPAIGN

The Division Campaign Training Meeting of the State Cancer Society met Wednesday, January 7, in the Robert E. Lee Hotel for a full day's planning and discussion of the campaign for raising funds in April. Dr. Felix J. Underwood presided over the meeting. He is the state campaign director. Mrs. Elizabeth Wates, executive vice-president, and Miss Lucille Russ directed the meeting. Mr. Frank Kramer, National director of Field Relations and Field Representative, Charles Taylor, also from the national office, spoke.

It was decided to increase the quota for 1953 one-third.

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MISSISSIPPI STATE MEDICAL ASSOCIATION

Eighty-fifth Annual Meeting
Biloxi - May 12, 13, 14, 1953
House of Delegates Meets May 11, 1953

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"NEW DRUGS, NEW DEVICES, NEW DIGESTS"

We have a new department in the Journal which we hope to make valuable to every reader. To this department we hope that every doctor will feel that he can contribute. You may have a most interesting handling of a case that others need to know about. You may have some simple operation that has served well, or you may have used a remedy that has been effective that is not known to others. You may have many valuable ideas that others might welcome. Let us have your cooperation for this department. We want your journal to lead the field in up-to-date service.

Dedication and Ground Breaking

MISSISSIPPI'S FOUR-YEAR MEDICAL SCHOOL AND TEACHING HOSPITAL MARKS NEW ERA IN MEDICAL CARE

Of the four spades which actually broke the ground three represented governors' administrations: One was pushed by Mrs. Thomas L. Bailey, whose late husband helped pave the way for the present realization; one by Ex-Governor Fielding Wright, in whose administration the program was set up; and one by Governor Hugh White, whose work in the legislature and the executive office forwarded it. At the left is Chancellor Williams of the University of Mississippi, representing the educational cooperation with the program.

(Prepared by David B. Wilson, M.D., Jackson, Miss.)

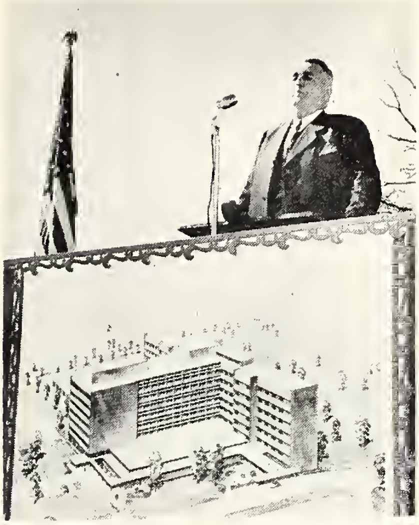
Champions in Mississippi's age-old battle to provide needed medical care for the state's 2,000,000 widely scattered rural citizens may look forward to a new array of recruits and weapons upon completion of the new $8,500,000 University Medical School and Teaching Hospital in Jackson sometime within the next two years.

Establishment of this first school and hospital of its kind in Mississippi history will create the heart of a system of local and regional hospitals provided in recent years to bring modern medical science within the reach of everyone.

The centrally located Jackson medical training school, one of the final links in the long range war on disease and sickness, not only will train doctors, nurses and other hospital technicians for the fight, but will provide a center of research, education, prevention and patient care.

The teaching hospital itself, part of the carefully studied overall planned facilities for a modern medical college, will, when completed, be Mississippi's largest, boasting 350 beds and facilities for the care of 50,000 outpatients annually. Eventual expansion will provide for 525 beds.

The school itself, providing the first four-year medical course ever offered in Mississippi and under the supervision of the University of Mis-



Governor Hugh White prophesies great progress, a happier and a healthier people, blessed with more abundant living in Mississippi.

sissippi School of Medicine which was established in 1902, will care for 320 student doctors with an eventual 400 enrollment possible.

Mississippi's doctor shortage, especially in remote rural sections, has been acute for many years and inspired a state-supported scholarship plan for financing physicians upon the condition that they return upon graduation and practice for a required time in a rural community.

Although the state has conducted a highly successful and widely recognized health program for years, the serious shortage of hospital facilities was brought to light in 1946 through a survey which showed a shocking shortage of beds.

Quick to recognize the emergency, the legislature in 1946 appropriated funds and set up the Commission on Hospital Care to undertake a remedy through federal funds made available under provisions of the Hill-Burton Bill passed by Congress.

The most recent survey made five years later shows that 87 new hospitals providing 1331 additional beds had been constructed under the program. Whereas 24 counties were without hospital facilities in 1946, the number has dwindled to only 11 today and most of these have hospitals in adjoining areas.

The average Mississippian, as a result, is today within an average of only twenty-five miles from hospital facilities.

The scheme of the hospital program in Mississippi has followed as nearly as possible the practice of taking the hospital to the patient rather than trying to bring the patient to the hospital. This system provides the rural, then the regional hospital, and now the medical center in Jackson. Thus the doctor can have facilities at both the local and regional level, and patients can enjoy the benefits of local treatment plus the advantages of higher level research, skill and highly specialized medical care.

The growing need for the medical school and base hospital as the core of this system was recognized by the legislature in 1950, at which time an appropriation of $4,000,000 was voted for the school.

To this sum has been added $3,000,000 of federal funds and $1,500,000 of Hinds County funds for construction of the teaching hospital.

In order to make Mississippi's new school-hospital one of the best in the nation, the State Building Commission which administers state funds, the Commission on Hospital Care, a special advisory committee of physicians, and an association of architects worked hand in hand in studying and planning the huge project.

Architects Malvaney, Neaf and Overstreet were assigned the job of designing plans, and because of its importance immediately formed an association of the three to do the job.

Working closely with the state agencies and the architects was a special advisory committee composed of a representative of the State Medical Association, Dr. Temple Ainsworth of Jackson; Dr. David Wilson, also of Jackson; Dr. D. S. Pankratz, dean of the University of Mississippi, school of medicine, and Dr. A. C. Bachmeyer, former dean of the University of Cincinnati School of Medicine and more recently director of the Medical Clinic of the University of Chicago, and past president of the American Association of Medical Colleges.

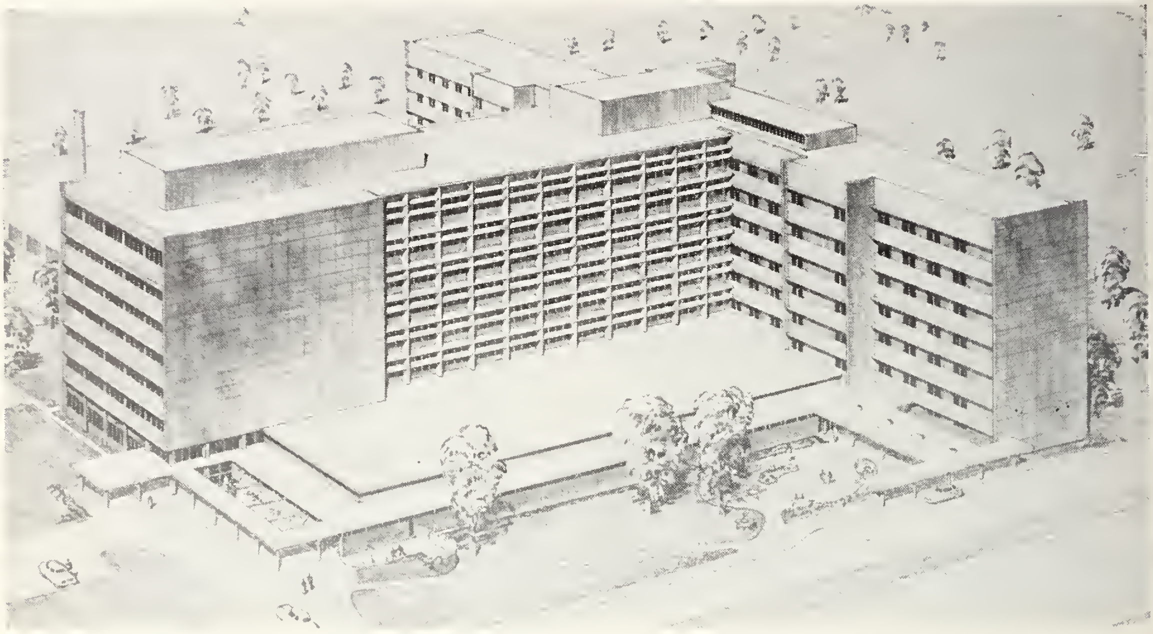
A thorough and careful study of the needs of the school and hospital was made. Experts in every field of medicine and hospital administration were called in, and hospitals and medical schools from California to the East Coast were visited and inspected.

In size and application the Vanderbilt University medical school compares favorably with the project undertaken in Mississippi, and was thus studied even more thoroughly than a dozen or so other schools. Each unit of the proposed college-hospital was first treated separately before the overall plans were drawn in an effort to gain the greatest efficiency for the institution.

The project on which work is expected to begin in November is considered to be one of the outstanding in the nation, probably the first of its kind started from "scratch."

Dr. Donald G. Anderson, secretary on medical education and hospitals for the American Medical Association which must approve Class A medical schools, says it's "one of the nicest he's ever seen."

The entire building, an integration of the Medical School with the Teaching Hospital, contains 468,000 square feet of floor space, 224,000 of which are allocated to the school, and 212,000



ARCHITECTS' DRAWING OF THE FOUR-YEAR MEDICAL SCHOOL AND TEACHING HOSPITAL

The achievement of this magnificent setup is the climactic part of the construction program which has marked the state's health strides the past five years particularly. Five years ago twenty-six of Mississippi's eighty-two counties had no hospital accommodations within the county. When the Hill-Burton law providing federal aid for rural hospitals was passed, Mississippi's stage was set for progress. Thirty-eight new hospitals have been built, containing 1800 beds. Twenty-nine new health centers have been built, aided in part by the Commission on Hospital Care. For all of this tremendous advancement in health facilities the people were ready and have lent hearty support. They had been prepared by hospital insurance coverage, the doctor-training program for rural areas, appropriations for nursing education, and through a tireless public health campaign for prevention and control of communicable diseases.

for the hospital, with a 32,000 foot service building to be attached by a tunnel.

The structure will be seven stories high and will be of re-inforced concrete construction with brick masonry with exterior aluminum trim. The interior will have painted plaster walls, accoustical ceilings, facing tile and ceramic tile wainscoating, tile floors and will be air-conditioned throughout.

The Medical School will contain eight departments, each major department containing a student laboratory and large lecture room. Library facilities will be installed on the second floor.

The departments are as follows: Morgue and autopsy and body storage, administration and out patient, pharmacology and therapeutics, chemistry, pathology, bacteriology and parasitology, physiology and bio-physics, and anatomy.

The school and hospital have been set up to provide the following functions in the order of their importance: 1) care of patient, 2) education, 3) research, 4) prevention.

The outpatient department, capable of handling 200 persons per day, will include medical and surgical facilities, obstetrics and gynecology, pediatrics, and specialty clinics for eye, ear, nose, throat and dental patients.

The hospital portion of the building is to be a modern teaching unit consisting of 350 beds, half of which by law must be used for charity cases. Six nursing wings accommodating 30 beds each, will be included. The surgery section of the hospital on the second floor will provide 10 operating rooms.

A central sterile supply and laboratory serving surgery below will occupy the third floor, and obstetrics suites will be situated on the floor above, with 48 bassinets for the new born nursery, 16 incubators for a premature nursery, and 3 bassinets in isolation nursery.

Emergency patients will be received in a large emergency department readily accessible on the ground floor by ambulance and automobile. An x-ray department will complete medical facilities.

The impressive structure will occupy a prominent elevated area on a 144-acre site in near north Jackson on state-owned property at one time occupied by the State Hospital for the Insane, now at Whitfield. It will be conveniently situated at the junction of U. S. Highway 51 and North State Street.

Completion of the job is scheduled for 1954, with first classes and patients probably admitted not before 1955.

MISSISSIPPI COMMISSION ON HOSPITAL CARE

The above photograph was taken of the members of the Mississippi Commission on Hospital Care which met concurrently with the ground-breaking ceremonics early in December. The members are, seated, left to right: W. S. Moore of Ackerman; Dr. Felix J. Underwood of Jackson; Dr. Henry Boswell of Sanatorium, president of the group; Carl W. Blomquist of Port Gibson, secretary; standing, Foster Fowler of Jackson, executive secretary; Hon. Harvey Hedgepeth of Jackson, attorney for the commission; Jack M. Montgomery of Inverness; Owen Cooper of Yazoo City, vice-president; and Dr. W. H. Anderson of Booneville.

INVOCATION

(Dr. G. T. Gillespie, president of Belhaven College, Jackson, Mississippi, prefaced the dedicatory address with the dedicatory prayer, reproduced below.)

O Lord, our Father, and our God! We come today to mark with fitting ceremony the beginning of a work which vitally concerns the people of this community and this state. Ere we set our hands to the task we pause to invoke Thy presence with us and Thy blessing upon this undertaking, for we know that "except the Lord build the house, they labor in vain that build it."

We would acknowledge Thee as the supreme architect of the universe, as the master-builder of the ages, and we pray that all of those who plan and all of those who labor here may be ever mindful of their responsibility to Thee and that all things may be done in accordance with Thy will.

We pray that this enterprise may be carried forward in a spirit of unity and harmony and that there may be no confusion or needless delay in the completion of the undertaking.

We thank Thee for the wise and farseeing vision of those who have sponsored this enterprise, for the generous and sympathetic cooperation of the citizens of the state and of this community who have supported it, and for the devotion, intelligence and skill which have gone into the preparation of the plans.

Grant, we pray Thee, Thy continuing favor to the Governor and the legislature of this state, the Building Commission, the Board of Trustees of Institutions of Higher Learning, the Chancellor and Faculty of the University of Mississippi, the dean and faculty of the Medical School, the superintendent and staff of the Hospital, to the end that the spirit and the example of the Great Teacher and the Great Physician may ever guide the destinies of this institution, and that from it may go forth streams of health and of healing to promote the wellbeing and happiness of all the people of this great commonwealth.

In His Name we make our prayer.

Amen

DEDICATION ADDRESS

(The following is the address given by Ex-Governor Fielding Wright, on the occasion of the ground breaking ceremonies, December 5, 1952.)

TODAY WE SEE a dream come true. It all began over a half a century ago. A heroic Mississippi struggled with a one crop system, and cotton eight cents per pound. The boll weevil ate the cotton in the northern part of the state and the cattle tick hit the cattle in the south. The laboring man worked chiefly in the saw mill at ten cents per hour, and the day was from six 'til six, eleven hours of work for a dollar and ten cents.

It was in the horse and buggy days, but few had horses and fewer had buggies. The roads were narrow, crooked, and roamed up hill and down, muddy in winter and sand beds in summer. The Mississippi River went on a rampage every spring and the levees were weak and low.

The mosquito had free entry into most homes with its poison of yellow fever, malaria, dengue. The fly was a frequent visitor with its burden of typhoid, dysentery, and other diseases. Pellagra, diphtheria, smallpox, and tuberculosis ravaged thousands of citizens every year, and little health protection was available.

Small one teacher schools dotted the back roads, where teacher and children feebly sought together the path of education. The state was burdened with debt, but Mississippi built a two year medical school. During this time hundreds of physicians have returned to practice medicine in this state who began their medical studies at Ole Miss, and today a prosperous Mississippi takes the next step to create a full four-year school. Prosperous because—cash farm income has increased more than a thousand per cent, the value of manufactured products has gone up more than 300 per cent in the last ten years. The people of the state are busy at work and their work is productive and finds a ready market.

In 1945, the ill effect of the years of depression and five years of war was felt in the lack of hospital facilities and a medical school in the state and of facilities for teaching medicine.

Several forward looking groups of Mississippi citizens made studies of these problems. Among them were the Farm Bureau Federation, the State Board of Health with Dr. Underwood, the State Medical Association, the chief medical journal of the state, *The Mississippi Doctor,* and its editor, Doctor Anderson.

It was found that the number of physicians in Mississippi had fallen from a total of 2,048 in 1916 to 1,112 in 1945, and the average age of the physician had increased until 53 per cent were over 60 years of age; that the state had the most inadequate hospital system in the nation with less than 5,000 beds and a need of 9,000; that 6,000 Mississippi boys graduated from high school each year and although more than a hundred of these boys wished to study medicine, there was room for a new class each year of only 25 at the two-year medical school at Oxford. It was found that at least 75 modern health department buildings were needed to serve the counties but only a dozen were available.

The Legislature of 1946, a member of which was our distinguished present Governor, with the untiring and devoted leadership of our late governor, Thomas L. Bailey, made a brilliant attack on these problems.

The Commission on Hospital Care was created with an appropriation of $5,000,000, later increased in 1948 to $10,000,000 and instructed by law to provide a hospital system that would reach to every citizen of the state, with the rural areas to be considered first. A Medical Education Board was created to furnish scholarships to worthy Mississippi boys and girls in order that they might secure a medical education and return for an agreed minimum period of five years to practice medicine in rural areas of Mississippi.

It was provided further by the legislature that when the rural Hospital Construction Program was well advanced toward completion the state should build a medical school.

Four years later the Legislature of 1950 found the rural Hospital Construction Program had advanced to the point where the second step could be taken.

The Senate and House Committees found that the beautiful site on which you now stand was available. It had been kept intact and available by the foresight and fortitude of the State Building Commission, against strong pressure which would have dissipated its value by less worthy uses. This site of over 300 acres will furnish the location for a great medical center of which this medical school and teaching hospital will be the hub.

The medical school will furnish basic medical education for 400 students annually, graduating at full capacity a hundred physicians. It will reach out into all parts of the state to furnish postgraduate medical education to physicians who are in practice. Such instruction is only available now in distant cities in other states. It will carry on vital research in the treatment and control of diseases, medical research applied to the medical problems of our own two million citizens. The associated nursing school will provide the only available college grade nursing education for girls in the state.

The teaching hospital, which will be constructed under the same roof, will consist of 350 beds, of which by law 175 will be for charity cases, and 175 will be for pay cases.

The medical school and the hospital will be completely air conditioned throughout, constructed of the best fire resistant and durable materials, and furnished and equipped with the finest medical, surgical, laboratory, and treatment facilities available to hospital science.

All patients who enter this hospital will receive the finest medical and surgical care, and all may be privileged to contribute to medical learning, so that this institution may become a great beacon light of medical knowledge to bring health and healing to thousands of people in this generation, and in those that come after.

Here on this site, thousands of mothers will smile with gratitude as their newborn babes draw the first sweet breath of life.

Here will come the worn, the sick, the feeble, the aged, and for all there will be the tender comfort of willing, skilled, and able hands to make them whole again and send them forth on a brighter and more blessed way.

This institution will be the great heart and brain of our medical center, and of our entire state hospital and medical care program but it will not fill all our needs. In the fullness of time, and not unduly delayed, we may expect other important developments of the center.

About and in this medical center will gather other hospitals and institutions such as the one now in view, being constructed on the northeast corner of this tract by the Order of Sisters of St. Dominic. The Federal Veterans Administration has indicated a desire to construct a 500- or 1,000-bed Veterans Hospital near here as a part of the permanent veterans' medical care program.

Other hospital and clinical groups may wish to locate near here to secure the benefits of the great concentration of medical, surgical, and teaching skill that will be concentrated here.

Sometime in the near future we must consider the serious problem of hospital care for our chronically ill. So far, the problem of chronic disease climbs every year with the aging of our population. For instance, in the past fifty years, for the nation, our total population has doubled but the aged in our population has multiplied four times over. A chronic disease hospital may be part of the hospital group here.

As a part of the chronic disease program we will need a rehabilitation center so that the crippled and handicapped may be treated, trained and restored to useful and productive lives.

The 350-bed general hospital now going under construction here will provide splendid maternity and infant care facilities, and treatment for children, but in time there will arise a need for a special children's hospital or children's wing on the general hospital to care for these growing needs.

The great medical school and teaching hospital that we dedicate today rests on a better foundation of hospital and medical care than we had in 1946. In the past six years Mississippi has led the nation in hospital, health department, and health center construction. During this period 45 hospitals have been placed under construction, of which 36 are now in operation in the most needy rural areas of the state. This and other hospital construction has added over 2,000 new hospital beds so that we now have a total of more than 6,000 as compared with 4,200 in 1946.

The Medical Education Board program has granted scholarships to 376 boys and girls, and 100 of these have finished their medical education and are now practicing in the rural areas of Mississippi. We can expect an annual supply of 50 physicians from this source. This and other factors have increased the 1,112 practicing physicians of 1946 to slightly more than 1,500 at the present.

In reaching the goal today, we have seen one of the greatest examples of Mississippi people working together. The people of Hinds County through its board of supervisors by bond election, placed one-third of the cost of the hospital in the state treasury, a total of $1,500,000.00.

The people of Lafayette County cheerfully agreed in the interest of the state to the removal of a part of their cherished university to this new site. The authorities of the University of Mississippi, Chancellor Williams, Doctor Guyton, Doctor Pankratz, and others assisted in planning this expansion.

The people of the nation through the Hill-Burton Act contributed $3,000,000 to the construction of the hospital to make the total of four and one-half million needed.

The people of the state through a far-sighted legislature appropriated $4,000,000 for the construction of the medical school proper, and has consented to increase this amount by $500,000 to make a total of four and one-half million dollars for the school.

For the entire project $9,000,000 are now available, the amount which it was estimated in 1950 would be needed.

With bricks and mortar, concrete and steel, we will erect this great structure as a beacon set on a hill, shining to the farthest home in this state, with its message of health and strength.

And now, humbly, in the sight of our God and by His Grace, we dedicate it to those who come here seeking solace of mind and body and spirit; and to those who come here in search of learning and skill in the healing arts; and to those who will minister to the vital needs of frail humanity; and to those who will teach and enrich with new learning the vast treasures of medical knowledge.

As we break this ground, we cannot honor all who deserve mention, but let the first spadeful be in memory of the late Governor Thomas L. Bailey; the second for Governor White for his long devotion to this cause and his active support of it; and I am sure Governor White joins me in my wish that the next spadeful be in honor of our physicians, our nurses, our teachers, our students, and the patients who, here together, will seek that light of knowledge that outshines the sun and that spirit of healing which is next unto heavenly works.

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Ellisville State School

Ellisville, Mississippi

The Ellisville State School is located approximately two miles from Ellisville, Mississippi, Jones County, and eight miles from the city of Laurel, on Highway 11, leading south.

Ellisville State School was established by the Legislature of 1920; it is a state-supported institution for the care and training of those mental defectives classified as feebleminded.

Feeblemindedness is not a disease. It is a condition of variable degrees of arrested mental development. It may occur in any grade of society. The condition may be present at birth or it may manifest itself during early childhood. No matter what their age, mental defectives remain children.

These children and grown-up children are, to the extent of their capacity, very happy. They have come from all parts of the state from homes of varying economic status and from families in all walks of life.

Since the establishment of the school in 1920, Mississippi has assumed responsibility for the care of as many as facilities would permit. Not only are the feebleminded persons happier among their own kind, but society has been relieved in caring for them and has been relieved of a greater burden through the cessation of hereditary transmission of defect from generation to generation, thus producing a higher type of citizenship, intellectually, socially and economically.

The feebleminded are described as those individuals "who on account of undeveloped intelligence are incapable of managing themselves and their affairs with ordinary prudence". Then just as there are varying degrees of intelligence among the intellectual classes, so are there varying degrees of feeblemindedness. "Persons denominated feebleminded comprise those commonly called idiots, imbeciles, and morons or high grade feebleminded persons". Regardless of what class they belong to, their bodies grow to manhood and womanhood physically but their minds remain somewhere on the level of childhood. If these feebleminded people were left in a normal society they would meet inevitable failure in all their undertakings when they are thrown in daily competition with those of higher intellect. By placing them in an institution where they compete with others of their same class they do not meet failure but are successful, happy, and contented in their own narrow sphere of life.

Not all inmates of the institution are needful of bodily care because many of them are able, after careful training, not only to meet their basic needs of cleanliness, grooming, etc., but under proper supervision to produce something.

Some males are able to do work in the dairy, on the farm and care for the grounds. Many girls are able to do simple housework, embroidering, sewing, weaving, and other simple tasks. Of course, there are those whose minds are so feeble that they have not the capacity to care for their physical needs. These helpless children are wholly dependent on trained staff members for their very existence.

We strive to make our institution a place where life goes on as nearly normally as the mental conditions of patients permit. A high standard of housekeeping, farming, dairying, occupational therapy, and industrial activities are maintained with recreation and amusement emphasized as an essential phase.

REQUIREMENTS FOR ADMISSION

The child or patient must be feebleminded. A physician's certificate in duplicate, certifying to the patient's feeblemindedness, signed and sworn to by two registered physicians, after examination of the child, is required as a part of the application.

HISTORY OF THE INSTITUTION

The institution was created by an act of the State Legislature of 1920, and was known as Mississippi Colony and School for the Feebleminded. The location of the institution was left with a committee to seek competitive bids. Ellisville and Jones County offered 2570 acres of land and a cash bonus and were awarded the location.

The first governing board, composed of seven members appointed by the governor, was a special one for this institution and was known as the Board of Trustees of the Mississippi School and Colony for the Feebleminded.

When the institution opened the only building that could be used as a patient dormitory was a large frame structure which was originally a commissary for a lumber company, which had to serve as a dormitory, living quarters for patients and employees, kitchen and administration.

Due to the lack of living quarters, the management was only able to admit male patients until the completion of a girls' dormitory which was granted by the Legislature of 1926.

The Legislature of 1928 appropriated $500,000.00 for a building program. Out of this fund two dormitories, the nursery building, laundry, service building, and power plant were constructed. The balance of this fund was used to provide new and complete water and sewer system, and steam conduits to all buildings.

One important achievement of the year 1929 was the mental and physical examination of every child in the institution. We are pleased to note that at that time an intelligent interest in the institution was growing. The seriousness of the problem of feeblemindedness was being recognized, and the wisdom of equipping and maintaining a complete institution capable of carrying out a comprehensive program of research, training, and prevention, was seen.

The constructive plans and foresight of the management and the Board of Trustees was hampered at this time due to lack of funds.

In 1929 the superintendent recommended that the name of the institution be changed from Mississippi School and Colony for the Feebleminded to "Ellisville State School". More than one argument could be advanced in favor of such a change. First, the former name was too long and confusing. Second, the new name "Ellisville State School" would eliminate the stigma of the word feebleminded, which is not relished by the higher grade children.

At the regular session of the Legislature of 1930, the name of the institution was changed to Ellisville State School.

In 1934, the Legislature provided the Board of Trustees of Eleemosynary Institutions to govern Mississippi State Hospital, East Mississippi State Hospital, and Ellisville State School, and the Charity Hospitals.

At the special session of the Legislature in 1947, Senate Bill No. 43 was passed, which was an act to provide that the Board of Trustees of Mental Institutions including Mississippi State Hospital, East Mississippi, and Ellisville State School shall be composed of five members. This segregated the mental institutions from the eleemosynary institutions and put them under a separate governing board. Senate Bill No. 43 also abolished the office of superintendent at each of the above named institutions and provided that a director should be named as head of each of the institutions. Senate Bill No. 43 also provided that the medical doctor requirement would not be a part of the qualifications for director of the Ellisville State School.

At that time Mr. John Blackledge was named as director of Ellisville State School and since that time has devoted his entire time and effort to the institution.

STATISTICAL GROWTH

Year	No. of Patients	No. of Employees
1921	43	4
1923	102	8
1925	123	10
1927	137	16
1929	239	21
1931	319	18
1933	269	15
1935	299	36
1937	325	29
1939	369	31
1941	386	30
1943	356	28
1945	375	30
1947	400	47
1949	347	55
1951	602	89
1952 (April)	653	95
1952 (December)	820	120

HOUSING OF PATIENTS

The present 820 patients of the institution are housed in eight (8) dormitories as follows:

Boys' Dormitory No. 1 — 137
Boys' Dormitory No. 2 — 102
Boys' Dormitory No. 3 — 125
Girls' Dormitory No. 1 — 56
Girls' Dormitory No. 2 — 110
Girls' Dormitory No. 3 — 55
Girls' Dormitory No. 4 — 115
Colored Dormitory No. 1 — 120 (60 males; 60 females).

In 1949, the State Building Commission appropriated funds for Boys' Dormitories Nos. 1 and 3, which constituted the first major building program at Ellisville State School since 1928. This additional room provided for better segregation of patients according to mental and physical status.

At the time the new dormitories were completed and occupied, the old dormitories that housed white patients were redecorated and to a large extent re-equipped. The old wooden dining tables and benches were replaced with pastel colored plastic dinnerware; old dormitory beds were replaced with new ones; dish sterilizers were installed; new living room furniture was purchased; and the old plumbing and wiring was replaced with new.

In 1950 the State Building Commission granted funds for a Colored Dormitory, which now houses 120 colored patients. Sixty of these patients are male and sixty are female. The building actually is two dormitories under one roof, as strict segregation is maintained with partitions, making separate dining rooms, play rooms, etc. This dormitory was the first provision for colored patients at this institution, and in the state.

FOOD SERVICE

The service building, which was built in 1928, is used for kitchen, supply room, refrigeration plant, and employees' dining room. Food is prepared here for the entire institution and transported to each dormitory by truck in insulated food containers.

In 1949, new gas ranges and gas baking ovens were installed in the kitchen replacing the old wood stoves. Other new and modern equipment was added in the way of potato peeler, food chopper, meat slicer, electric mixer, steak tenderizer, and stainless steel sinks and tables.

A new ice plant and refrigeration system was installed in 1949, which replaced the old ice plant which was well worn out. In 1951, a deep freeze room was constructed, which better provides for the storage of meats.

An abundant supply of milk is furnished by the school dairy. A pasteurizing unit was installed in 1949, and for the first time in the history of the institution, the patients were furnished with bottled, pasteurized milk. A modern cooling system was installed just prior to installation of the pasteurizer.

Two ice cream freezing units provided a bountiful supply of ice cream which is made from the surplus amount of milk.

The majority of the beef consumed at the institution is furnished by the beef herd, and all of the pork is grown at the institution. Pasture lands are constantly being treated, sodded, and improved to care for an adequate amount of livestock. All Bang's and tubercular suspects have been eliminated from the herd of dairy and beef cattle. Registered foundation breeding stock for both herds has been added.

An extensive operation of truck farming is carried on. All of the vegetables consumed are produced on the farm.

OCCUPATIONAL THERAPY AND RECREATION

In 1950, an occupational therapy department was organized. Looms were purchased for weaving, and one of our instructors in this department was sent to a two-week training school in Pennsylvania to learn to operate the looms. Many of the patients have made remarkable progress in this craft. This department constantly works at the project of beautifying the dormitories in supplying rugs, table runners, and scarfs to create a more homelike atmosphere.

A part of the occupational therapy department consists of leathercraft. The patients are able, under supervision, to make beautiful hand-tooled billfolds, purses, key cases, etc.

Another phase of this department is the sewing room in which more professional work is done in the way of cutwork, embroidery, and crocheting. The larger portion of the female patients' clothing is made in the sewing room.

In 1950, a beauty shop was organized under this department. A fully equipped shop was set up and a trained beautician works part-time. This phase adds greatly to the morale of the girls.

In 1951, a concrete block woodwork shop was constructed, and modern woodworking equipment has been installed. This adds much to the occupational therapy program.

In addition to these handicraft classes, a school program is carried on. Much time is spent in the classification of patients, and they are introduced to the department in which they are most talented. Handwork in using colored crayons, water colors, cutting and stenciling are made available for posters, booklets and many other useful gadgets for the school room.

Many of the patients are not capable of regular classroom work in school but are able to participate in vocational training. A patient who performs an assigned task is a happier, healthier individual. It boosts his morale and self-respect and we do not feel that the value of providing the patients with something to do can be overestimated.

A well rounded recreational program is carried on. A picture show is shown twice a week in the school auditorium. In addition, a portable screen and projector is carried to the dormitories every week in order that the invalids and bedridden patients may enjoy this form of recreation.

Record players and radios are provided in the dormitories for the enjoyment of the patients.

Every other week square dances are held which has proved to be most popular among the patients, not only to those participating but many of the older patients enjoy the dances as spectators.

Assembly singing is held once a week in the auditorium, in addition to the various parties and programs which are given for all holiday occasions.

Devotional services are held each Sunday morning for the patients. Music is furnished by a choir of boys and girls at the institution.

HEALTH AND MEDICAL

Much improvement has been made in the care of the children. On entrance, the following tests are given: Wassermann, chest x-ray for tuberculosis, complete blood count and urinalysis. Routine immunizations are given for typhoid, smallpox, and diphtheria. Children are examined daily and when found under-developed, are given special attention.

In May, 1952, our physician was employed on a full-time basis. He now spends every day at the institution, constantly checking the patients and instructing the four full-time registered nurses. So complete is their program that we feel that we have much less physical illness among the patients here than the general population outside the institution.

In 1949, an extensive research program was started toward the eradication of intestinal parasites among the patients. To our knowledge, a check of this kind had never been made before. The Department of Parisitology at Tulane University worked with us, both on research and treatment. As a result of their laboratory tests, it was found that virtually every patient at the institution was contaminated by some sort of intestinal parasite or another. Proper medication was prescribed and administered, and when a re-check was made thirty days later, the results were highly successful. In April, 1951, another re-check was made and no sign of intestinal parasites was found. A remarkable improvement can be seen in many of the patients as a result of this treatment. (See April, 1952, issue of *The American Journal of Medicine.*)

At this writing construction has begun for a new Administrative Building which will include a wing for our Medical Department and a wing for the Occupational Therapy Department.

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It's Polio Campaign Month

FOUR CRITICAL YEARS OF POLIO IN MISSISSIPPI

The 1952 nation-wide polio epidemic smashed all previous records as 56,948 children and adults were stricken. The last four years have brought the four worst polio epidemics in history, with a total of upwards of 160,000 cases, or, an average of more than 40,000 cases each year.

	Miss.	United States
1949	359	42,033
1950	393	33,303
1951	729	28,395
1952	703	56,948
	2184	160,679
Yearly Average	546	40,169

In 1952, 79 of Mississippi's 82 counties were hit in the second most severe polio outbreak in the state's history. The 703 recorded cases were surpassed only by the 729 total for 1951, and was the fourth straight year for polio disaster to visit our state, claiming 2,184 victims, or an average of 546 cases each year. No county, and hardly a single community has escaped. The four year total is more than double the number (1,077) stricken during the entire previous decade in Mississippi.

The upsurge of last year's polio epidemic in Mississippi began early in June and continued through September before there was any appreciable letup in the daily and weekly rate of new cases. This was four straight months of peril, during which time more than 600 Mississippi children and adults were stricken with this vicious disease. July was the peak month with 178 cases.

EMERGENCY EPIDEMIC AID GIVEN MISSISSIPPI

March of Dimes money has been working every minute of every day. The full resources of the National Foundation for Infantile Paralysis, including equipment, personnel and money, was readily available to us to insure good care for every patient. Seven resident physicians, eleven physical therapists, one medical social worker and fifty-eight nurses were recruited from ten different states and rushed to Mississippi last summer to help meet the emergency. In addition, four nursing consultants and five physical therapy consultants were supplied. Life saving equipment, including iron lungs, hot pack machines, rocking beds and other technical equipment, was rushed to our hospitals from National Foundation Equipment pools. Money was provided as needed. Fifty-eight of our county chapters, after exhausting local March of Dimes money, received $310,000 in emergency epidemic aid during 1952 alone.

Since 1946 the National Foundation has sent $1,290,000 in emergency funds to Mississippi County Chapters to provide patient care.

More than one-half million dollars in March of Dimes money was spent for the care of Mississippi polio patients in 1952.

Polio research is more promising than ever today.

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INSTITUTE ON EMERGENCY PLANNING

Plans are about complete for an Institute on Emergency Planning to be held at the Robert E. Lee Hotel in Jackson on February 10 and 11. The Institute is being sponsored by the Mississippi State Hospital Association and the Mississippi Commission on Hospital Care. The program is divided into three blocks — fire safety organization, disaster planning, and operating room hazards.

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WALLACE SANITARIUM STAFF

The Wallace Sanitarium at Memphis has elected the following staff officers for 1953:

Dr. Samuel Paster — Chief of Staff
Dr. Marvin Lathram — Assistant Chief of Staff
Dr. James A. Wallace — Secretary.

INTERNATIONAL COLLEGE OF SURGEONS

Qualifying examinations for Fellowship in the United States Section of the International College of Surgeons will be held on the following dates in 1953: February 2 and 3, May 4 and 5, August 10 and 11, and November 2 and 3. The examinations will be given at the Cook County Graduate School of Medicine, and the Cook County Hospital. Applicants are requested to address communications as follows: Harry A. Oberhelman, M.D., Secretary, Qualification and Examination Council, 1516 Lake Shore Drive, Chicago 10, Illinois.

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MEDICAL SOCIETY CALENDAR

SOCIETY	*MEETS*
Central Medical Society	First Tuesday each month. Roof Robt. E. Lee Hotel, 6:30 P. M.
South Miss. Medical Society	Second Thursday each month. Alternating, Hattiesburg and Laurel.
Tate County Medical Society	No regular meetings.
Northeast Miss. Medical Society	Second Tuesday of March, June, Sept., Dec.
Clarksdale and Six Counties	Fourth Wed. of March; Second Wed. of November., Clarksdale, Mississippi.
Coast Counties Medical Society	First Wed. each month. Alternating all over Coast.
North Miss. Medical Society	First Thurs. of January, April, July, and Oct. University unless otherwise specified.
Amite County Medical Society	First Thursday each quarter, Field Memorial Community Hospital, Centreville.
East Miss. Medical Society	Third Thurs. of March, June, Sept., and Dec. Meridian, Miss.
Tri-County Medical Society	Second Tuesday of March, June, Sept. and Dec. Brookhaven, McComb, Hazlehurst, Brookhaven (1952).
Delta Medical Society	Second Wed. of April and Oct. Cleveland, Miss., Oct. 1952. (Rotates in the 5 counties).
Wilkinson County	Second Thursday of March, June, Sept., and Dec., Field Hospital, Centreville.
Issaquena - Sharkey-Warren	Second Tuesday each month, Olde Southern Tearoom, Vicksburg.

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BOOK REVIEW

THE SPECIALTIES IN GENERAL PRACTICE, edited by Russell L. Cecil, M.D., with articles by fourteen outstanding men in the nation, is one of the most valuable books yet published for the general man. In this volume minor surgery, orthopedic surgery, fractures and dislocations, urology, diseases of the anus, rectum and colon; gynecology, obstetrics, pediatrics, ophthalmology, diseases of the nose and throat; diseases of the larynx, bronchi, and esophagus; otology, and dermatology and syphilology are discussed fully by the very ablest men. If you keep this book on your office desk a little while you will not do without it. This book contains over 800 pages. It is published by the W. B. Saunders Company, Philadelphia. J. A. Majors Book Company of Dallas, New Orleans, and Atlanta handle the Saunders books.

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CURRENT THERAPY, edited by Howard F. Conn, M.D. and published by W. B. Saunders Company, is no doubt one of the most serviceable books yet published for the practitioner. The third edition, or revised edition, will be out about next month. You will want a copy of this Bible of therapy.

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SOUTHERN MEDICAL ASSOCIATION

Next Meeting:
October 26-29, 1953, Atlanta, Ga.

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GUEST EDITORIAL

(Continued from page 265)

around 2,000. Until the new medical school and teaching hospital are ready to receive students, scholarships in medicine and also in nursing are available under the Medical Education Board program.

The Southern Regional Education Board provides assistance to qualified Mississippians—white or Negro—who aspire to higher education in some field for which training is not available to them in any of the colleges of the state or at the University, such as professional training in dentistry and veterinary medicine.

During the past six years the number of Mississippi physicians in private practice has not changed materially, remaining at about 1 to every 1400 people most of this time. The state health department makes inquiry twice each year of every county regarding places where physicians are needed.

Although the needs of the military services have reduced the supply of young physicians, it seems reasonable to conclude that, with the advances already enumerated, plus thousands of individually-owned automobiles and 7,000 miles of all-weather roads in the state, medical service is now more accessible than it could have been fifteen to twenty years ago.

The Preparation of the Patient for Surgery[*]

JAMES D. HARDY, M.D., F.A.C.S.[†]
Memphis, Tenn.

I wish to review with you some of the methods employed in the preparation of certain patients for operation. A variety of examples has been selected because of the varied nature of this audience. An outline of the preoperative care of these patients will cover a considerable number of the principles and techniques that are commonly employed in preparing patients for surgery. Recent advances in preoperative care will be included.

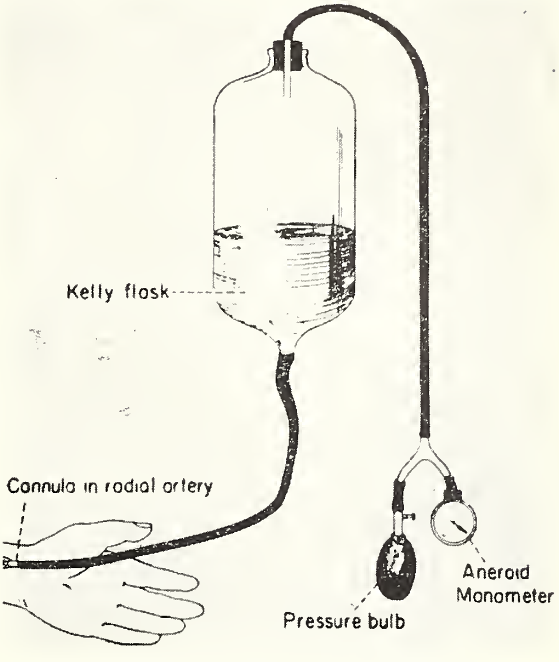
ABDOMINAL TRAUMA

The first patient for consideration is the man with acute abdominal trauma, occasioned by a gunshot wound or otherwise. (Slide 1). The first thing to do in these patients is to combat shock by the administration of blood. Shock from continued blood loss indicates a deficit of at least two liters. The measures to be employed are 1) temporary resuscitation by the administration of blood, 2) prompt operation to prevent further hemorrhage, to repair the injured parts, and to prevent or to control serious infection, and 3) postoperative care consisting of further blood, if needed, the prevention of abdominal distention with a Miller-Abbott tube and the prevention or treatment of spreading peritonitis.

SLIDE 1. TABLE I — ABDOMINAL TRAUMA

The successful management of abdominal injuries consists in:

1. Temporary resuscitation by administration of blood.
2. Prompt operation
    a) to prevent further hemorrhage.
    b) to repair the injured part.
    c) to prevent or control serious infection.
3. Postoperative:
    a) The control of shock with blood.
    b) The prevention of distention.
    c) The prevention of spreading peritonitis.



SLIDE 2. BLOOD PUMPING SET

This apparatus permits the rapid infusion of large amounts of blood in an emergency. The cannula is more frequently tied into a vein than into an artery. The blood pressure manometer in the system permits the regulation of the infusion pressure, and a pressure of 200 mm. Hg. is satisfactory. Unless an air trap is added to this set, one must be careful to avoid introducing air into the vein as the flask becomes empty.
(Hale, D. E., Anesthesiology, 9:498, 1948).

The next photograph (Slide 2), shows a blood pumping set which anyone can construct in ten minutes with a suitable reservoir bottle, an aneroid manometer, a blood pressure bulb, pressure rubber tubing and wire for securing the connections. In the slide it shows the cannula tied into the radial artery. Actually, more frequently we tie it into a vein. The point which we wish to make here is that this or some other method of pumping blood is essential in the satisfactory management of severe trauma. The old practice of stripping the intravenous tubing or of pumping blood with a 50 cc. syringe is outmoded and probably should be abandoned. (Slide 3). Good anesthesia and an adequate operative exposure are also of critical importance in the management of traumatic injuries.

SLIDE 3. TABLE II — ANESTHESIA AND INCISION FOR ABDOMINAL TRAUMA

1. Continue blood transfusion.
2. Continuous spinal anesthesia or ether-oxygen with an intravenous curare-like substance provides the best relaxation.
3. A sufficiently large incision should be made to provide maximum exposure.
4. Do not be afraid to enlarge the incision in any direction.

THORACIC SURGERY

The next few slides will serve further to emphasize the problems encountered in the preoperative management of certain common thoracic conditions. (Slide 4). This chest film shows a lipoidal study of the common garden variety of

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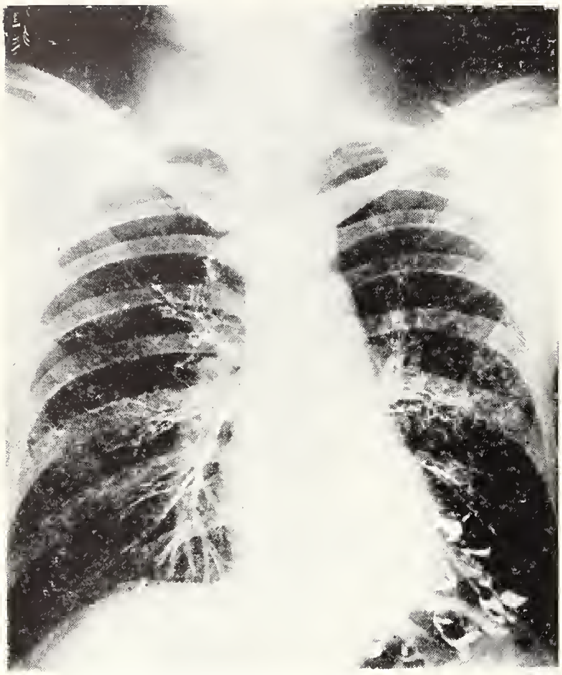
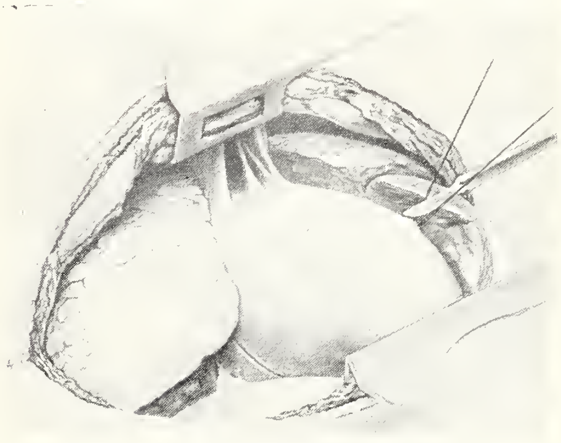
[†] From the Department of Surgery and Surgical Laboratories, Medical College of the University of Tennessee, Memphis, Tennessee.

[*] Presented before the Tri-State Medical Assembly Texarkana, Arkansas, October 2, 1952.



SLIDE 4. BRONCHIECTASIS OF LEFT LOWER LOBE
This lipiodol study reveals far advanced saccular bronchiectasis of the left lower lobe.

bronchiestasis of the left lower lobe. The next illustration is a kodachrome photograph of such a lobe removed; the dilated bronchi, or "pus pockets", may readily be seen. These patients require a definite routine of preoperative therapy: postural drainage, to drain most of this pus to the outside; a diet liberal in calories and in proteins; and antibiotics to minimize patchy areas of pneumonitis. The best indices of improvement and of readiness for operation are a marked diminution in the amount of sputum brought up each day and a definite gain in weight. It is commonly observed that these patients' appetite improves as their pulmonary infection and daily sputum volume decrease. If they can reverse the process of weight loss and gain even one or two pounds, their ability to withstand pulmonary resection is much improved.

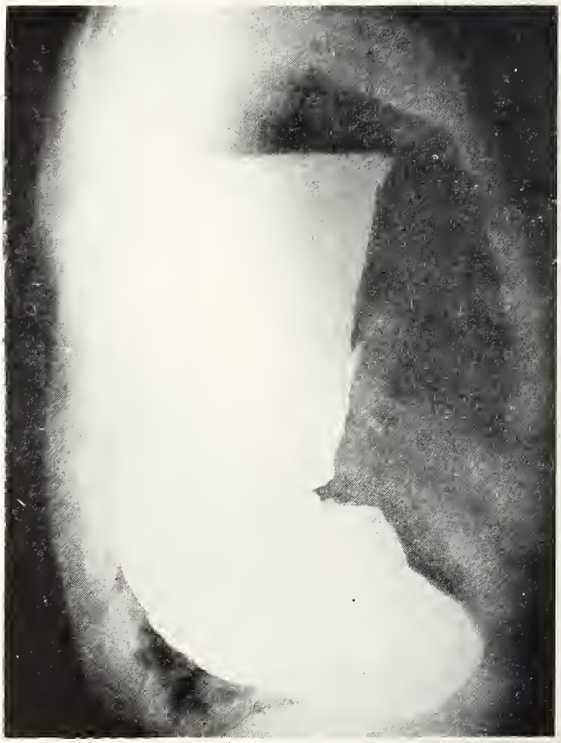


SLIDE 6. THE TRANS-STERNAL INCISION FOR PERICARDIECTOMY
(Johnson, J. and Kirby, C. K., A new Incision for Pericardiectomy, Ann. Surg., 133:540, 1951.)
This incision, which opens both pleural cavities, gives good visualization of both ventricles. This extensive exposure has been made feasible through the recent advances in our knowledge of cardio-pulmonary physiology and anesthesia. Using this incision, one can achieve a maximum of cardiac decortication with a minimum of risk.

The next photograph, (Slide 6), is that of the operative exposure in a case of pericardectomy performed for constrictive precarditis. This patient was admitted to the hospital with considerable ascites and dependent edema. Moist rales were present at both bases. The appropriate preoperative therapy for such a patient is therapy directed towards the elimination of excessive deposits of fluid and therapy which strengthens the heart. Mercurial diuretics and digitalis were given, and the patient was operated upon successfully. The preoperative preparation required for this patient was quite different from that required by the patient who had bronchiectasis.

SURGERY OF THE ESOPHAGUS AND STOMACH

The next patient presents still another type of problem, one which is met with in the preoperative preparation of the patient with gastric obstruction, whether at the cardia or at the pylorus. This photograph (Slide 7), shows the



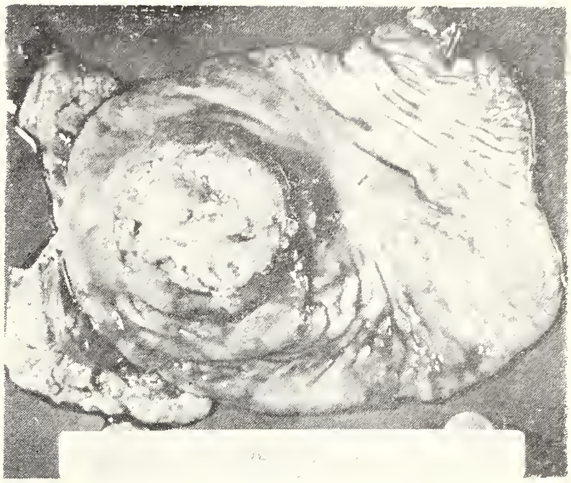
SLIDE 7. ACHALASIA (ESOPHAGOSPASM) WITH ENORMOUS ESOPHAGEAL DILATATION
Four quarts of barium mixture were introduced into the esophagus, but still it was not filled.

roentgenogram of an enormously distended esophagus which held four quarts of barium before the radiologist became alarmed and refused to give more. This patient had achalasia of the esophagus, or cardiospasm, and was getting very little food into his stomach. He had lost forty pounds in weight and was most assuredly a poor operative risk. The question which arose was, How could such a patient, who could not ingest food, be prepared for resection of the lower two-thirds of the esophagus with subsequent esophagogastrostomy? We did not wish to do a gastrostomy for feeding purposes in this patient because we expected to pull the stomach up into the chest to anastomose it to the thoracic esophagus. We did not wish to do a jejunostomy for feeding purposes because, in our experience, rather few patients have been greatly benefited by jejunostomy feedings. What we did do was to determine this patient's blood volume, which was found to be almost two liters below normal, and to bring it up to a normal level preoperatively. Blood loss at operation was then measured by weighing the sponges as they were discarded, and this loss was replaced as it occurred. We successfully performed the esophagogastrostomy. Incidentally, we currently favor the Heller operation for achalasia. This is the muscle-splitting operation, performed on the esophagus in adults, which corresponds to the Ramstedt procedure usually done for hypertrophic pyloric stenosis at the opposite end of the stomach in children. However, the Heller operation, recently revived, was first proposed many years ago but fell into the discard. Such revived operations should be viewed with skepticism.

This emphasizes our method of preparing for operation patients with lesions of the upper gastrointestinal tract who cannot be fed adequately preoperatively. We bring the blood volume to normal levels and then we operate upon them promptly, with an adequate amount of additional blood held in reserve. We believe that the preoperative transfusions are more effective if they are given rapidly over a period of two or three days than if they are strung out over a period of ten days.

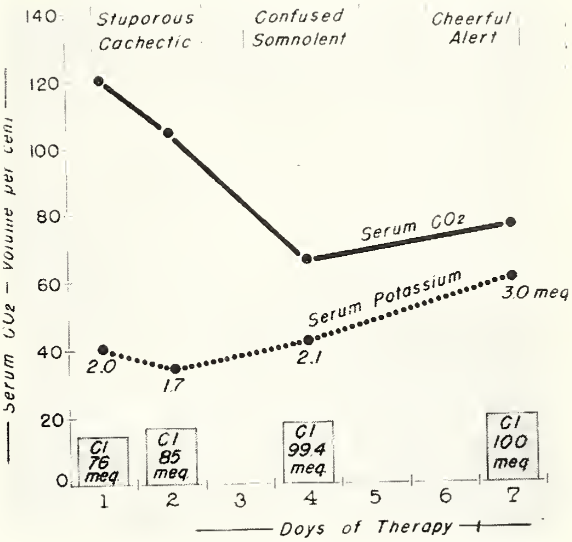
FLUID BALANCE IN PATIENTS ON CONTINUOUS INTESTINAL SUCTION

The next subject is presented to emphasize a common complication which is encountered in long continued intestinal suction, using either a Levin tube or a Miller-Abbott tube, for lesions such as gastric carcinoma. (Slide 9). Very frequently a patient with such a lesion enters the hospital and, because of vomiting, is immediately placed on continuous gastric suction. We all do this. However, it is important to recall that in these patients we are continuously aspirating fluids which contain sodium, chloride, and potassium. The next slide (Slide 10), shows the findings which were encountered in a patient who had chronic intestinal obstruction from widespread malignancy and who suddenly went into coma while on intestinal suction. She was also vomiting



SLIDE 9. GASTRIC CARCINOMA

These lesions frequently produce pyloric obstruction, resulting in inanition and body fluid and electrolyte imbalance.



SLIDE 10. H. D.: CORRELATION BETWEEN MENTAL OUTLOOK AND SERUM CHEMISTRY DURING THE CORRECTION OF SEVERE WATER AND SALT DEPLETION

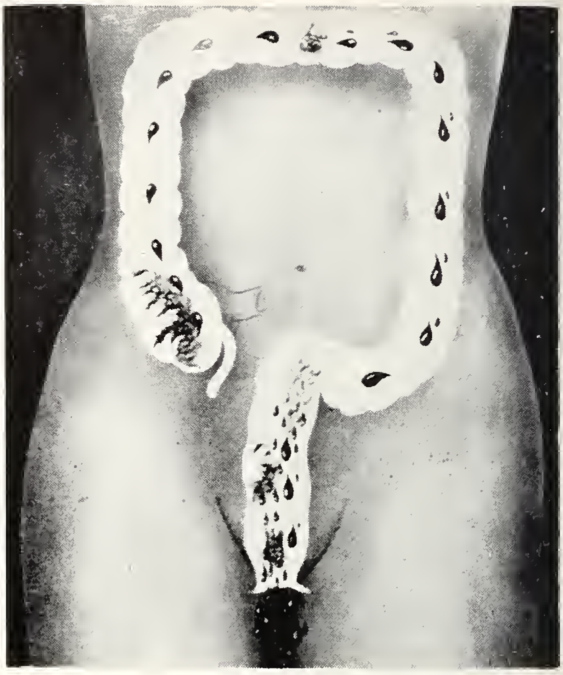
Following a period of intermittent vomiting and frequent movements from a transverse colostomy, the serum carbon dioxide combining power, serum chloride, and serum potassium levels were found to be 120 volumes per cent (55 m.Eq.), 76 m.Eq., and 2.0 m.Eq. per liter, respectively. The serum sodium concentration was within normal limits, and the blood pH was 7.59 (normal 7.43). The fluids used in repair were ammonium chloride (2%), potassium chloride (0.6% in 0.45% NaCl), and sodium chloride (0.85%), and glucose solutions. The potassium therapy, given after the other fluids had proved only moderately efficacious, resulted in a most dramatic improvement in the patient's mental vigor and physical appearance.

(Hardy, J. D., Pennsylvania M. J., **54**:869,, 1951).

small amounts of gastric contents around the Miller-Abbott tube which was in the jejunum. It was thought that the cause of her stupor was that she had entered a terminal phase of her illness, but serum chemistry values revealed a serum potassium level of 2.0 m.eq./L. (normal 3.5-5), a serum bicarbonate level of 55 m.eq./L. (normal 25 +) and a serum chloride level of 76 m.eq./L. (normal 100). The serum sodium level was within normal limits. The blood pH was 7.59 (normal 7.43), revealing the presence of a marked metabolic alkalosis. This patient responded only moderately well to sodium chloride and ammonium chloride therapy. Potassium chloride therapy (0.6% potassium chloride in 5% glucose solution) was then started and her response was as dramatic as is emphasized by the descriptive terms used at the top of the slide. Originally semi-comatose, she was reading the newspaper in a chair after several days of potassium chloride therapy. Since her intestinal obstruction could not be relieved to permit oral feedings, this favorable response was brought about entirely through the intravenously administered fluid and electrolytes. What had happened was that she had been seriously depleted of electrolytes and particularly of potassium. This patient convinced us, perhaps for the first time but forever, of the need and value of potassium therapy in patients on continuous intestinal suction.

SURGERY OF THE COLON

The next two slides show kodachrome photographs of, first, multiple polyps of the colon and, second, carcinoma of the colon. (Slide 12). The preparation of the patient for the resection of such lesions proceeds along certain definite lines. These patients should be placed on a low residue diet at least five days before the operation is to be performed This minimizes the fecal mass and facilitates anastomosis. The bacterial flora of the bowel should be minimized by the administration of streptomycin, sulfathaladine, or of some other suitable compound. This reduction of the bacterial flora is more readily accomplished if the patient is on a low residue diet. These patients should have their blood volume brought up to normal, and their diet should be as liberal in calories and in proteins as they will ingest. Finally, before operation we like to be sure that a Miller-Abbott tube has progressed to a point well down in the small bowel. The prevention of postoperative distention is very important following the segmental resection of colon lesions with primary intestinal anastomosis. Since distention results in large part from swallowed air, intestinal suction is usually effective in preventing the development of distention postoperatively even in the presence of a competent ileocecal value, which prevents reflux of gas from a distally obstructed colon.



SLIDE 12. CARCINOMA OF LARGE BOWEL

Blood loss is frequently a serious factor in patients who have malignancies of the large bowel. The blood volume should be restored to a normal level preoperatively. In addition, the bowel should be prepared for safe anastomosis by placing the patient on oral antibiotics (sulfasuxidine, sulfathaladine, or streptomycin) to reduce the bacterial flora, by employing a low residue diet to decrease the fecal mass, and by cleansing the colon with frequent mild laxatives and enemas.

THERMAL BURNS

The next slide (Slide 13), shows the grafted area in an extensive gasoline flame burn. The lower leg amputation was necessary because of charring of these tissues. I wonder how many physicians present realize that approximately 200 cc. of blood may be lost with each dermatome

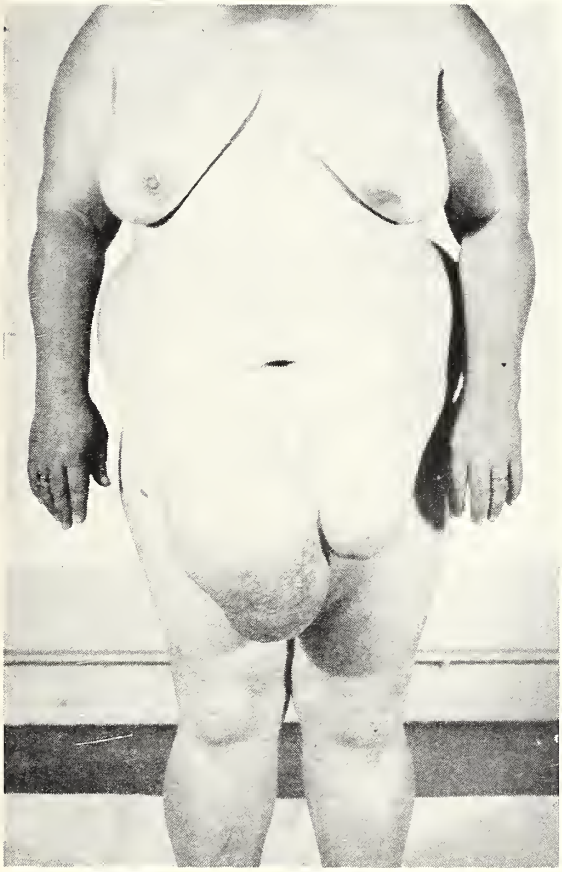
SLIDE 13. SKIN GRAFTING FOLLOWING THERMAL BURNS

As much as 200 cc. of blood may be lost with each dermatome drum of split thickness skin that is taken. Relatives of the patient with a severe burn should immediately begin a program of securing fifty or sixty donors through their friends, at their places of work, and through their church.

drum of split thickness skin that is taken. Thus, four drums of skin would require the replacement of approximately one liter of blood, six drums 1500 cc., and so on (Slide 14)[*]. The point to be emphasized here is that relatives of the patient with a severe burn should immediately begin a program of securing fifty or sixty donors through their friends, at their places of work, and through their church pulpit. Burn patients have a great need for proteins and calories, and they should be offered food supplements every three hours when awake. Tube feeding is frequently advisable, and feeding pumps represent an important new development in this field.

REPAIR OF LARGE VENTRAL HERNIAS: PREOPERATIVE CARE

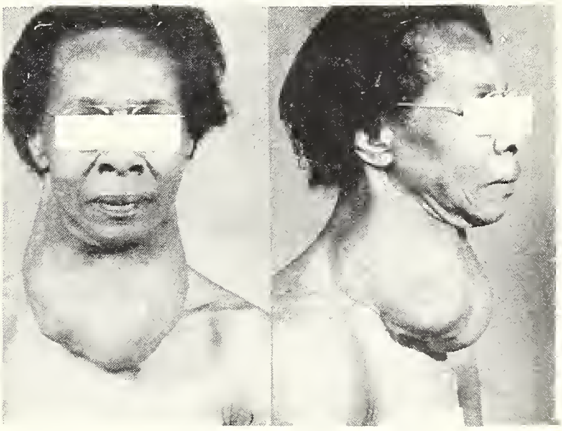
The obese patient shown in the next color photograph (Slide 15), emphasizes the problem presented by obesity, with the hypertension and the diabetic tendency which often accompany this condition. It may be seen in the slide that she had had two previous attempts at repair of this large ventral hernia. The fascial defect or ring was not as large as one might expect from the great size of the pendulous mass. On the under surface of the pendulous mass the skin was ulcerated from maceration and inadequate hygiene. This patient had never been able to lose weight for her family physician, and we did not believe that she would be able to lose weight for us. Her diabetes was mild and was brought under control. The cardiologist did not consider her hypertensive cardiovascular disease sufficient to contraindicate another attempt at repair of the almost incapacitating hernia. The viscera were maneuvered back into the abdominal cavity and a binder was arranged so as to keep the viscera within the abdominal cavity for five days preceding the operation. This was done to allow the cardio-respiratory apparatus to become adjusted to the new pressure relationships which would exist following the replacement of all herniated viscera at operation. The skin ulceration was exposed to the air and was cleared up by suitable local treatment. The hernia was then repaired with wire and this repair had held for two years when the patient was last seen. Following operation she still experienced considerable respiratory embarrassment because of the elevation of the diaphragm, caused by returning the viscera to the abdominal cavity, but this rapidly improved.



SLIDE 15. LARGE RECURRENT VENTRAL HERNIA
Problems: obesity, diabetes mellitus, and hypertension.

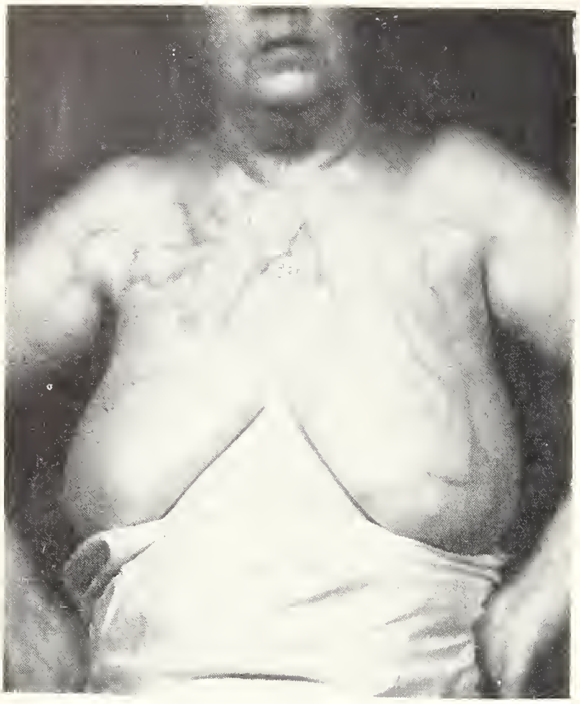
THYROID SURGERY

The remaining few minutes will be devoted to representative endocrine conditions, since endocrine conditions frequently require the most specific preoperative preparation. The next photograph (Slide 16), shows a patient with a grapefruit-sized non-toxic nodular goiter. This lesion was a large one, but such lesions require practically no preoperative preparation. A survey B.M.R. and a chest x-ray to rule out substernal extension are the major studies required. The



SLIDE 16. NONTOXIC NODULAR GOITER (benign)
This goiter was freely movable and was easily resected. (Hardy, J. D., **Surgery and the Endocrine System.** Philadelphia, W. B. Saunders Company, 1952, p. 73.)

[*] Omitted in manuscript.



SLIDE 17. INTRATHORACIC TOXIC GOITER

This infrared photograph clearly demonstrates the distended veins over the upper arms and thorax. The superior vena caval obstruction was caused by the large goiter. Pressure of the goiter on the trachea, with accompanying dyspnea, rendered the determination of the basal metabolic rate unreliable. The measurement of the uptake of radioiodine by the goiter was inaccurate because of intrathoracic position of the mass. The fact that the goiter was toxic was finally established by the chemical measurement of the level of protein bound iodine in the patient's serum. The serum protein bound iodine (PBI) level is considered to represent the level of thyroxine and related compounds in the blood stream. The finding of an elevated value in this patient proved that the intrathoracic goiter was a toxic one. She was given adequate amounts of propylthiouracil and inorganic iodine and the goiter was successfully removed through a thoracotomy incision. (Hardy, J. D., **Surgery and the Endocrine System.** Philadelphia, W. B. Saunders Company, 1952, p. 74.)

next photograph (Slide 17), is also one of a patient with a goiter. However, this goiter, the size of a child's head, was entirely intrathoracic in the superior mediastinum, partially obstructing the superior vena cava. Note the distention of the veins of the upper thorax, as shown in this infrared photograph. And as if the intrathoracic position of the goiter were not enough to complicate the situation, this goiter was proved to be toxic. This was revealed by an increased radioactive iodine uptake and by an elevated serum protein-bound iodine level, for the pressure of this mass upon the trachea rendered the basal metabolic rate unreliable as a measure of thyroid activity. The goiter was readily removed through a thoracotomy incision.

SLIDE 18. TABLE III — PRINCIPLES OF PREOPERATIVE CARE IN THYROTOXICOSIS

The patient should be placed on a program which will tend to:

1. Bring the basal metabolic rate to normal.
2. Improve the general nutrition.
3. Lead to a stabilization of the pulse rate.
4. Restore the patient's confidence in ultimate recovery.

The principles of preoperative care in thyrotoxic patients are not new, but the specific therapy is changing. (Slide 18). The next slide presents considerations of preoperative care. As listed, the patient should be placed on a program which will tend 1) to bring the basal metabolic rate to normal, 2) to improve the general nutrition, 3) to produce stabilization of the pulse rate and 4) to restore the patient's confidence in ultimate recovery. It is hardly necessary to mention that the patient's confidence in recovery should be bolstered no matter what operation is being contemplated for, unquestionably, the patient's ability to withstand surgery is influenced by his psychological attitude towards the operation. The next slide presents methods of treatment of thyroid toxicity. They are 1) iodine, 2) goitrogenic compounds, which include propylthiouracil, 3) external irradiation of the thyroid, 4) internal irradiation with radioactive iodine, and 5) radical resection of the thyroid gland. Radioactive iodine is being more and more used through this country for the treatment of thyrotoxicosis, but most endocrinologists with whom I have talked seem still to prefer surgical therapy for their own patients. Nevertheless, it seems likely that radioactive iodine may eventually replace surgical resection as the treatment of choice in most cases of thyroid toxicity.

SLIDE 19. TABLE IV — PRESENT METHODS OF THE TREATMENT OF THYROTOXICOSIS

1. Iodine.
2. Goitrogenic compounds.
3. External irradiation of the thyroid or pituitary.
4. Radioactive iodine.
5. Radical resection of the thyroid gland.

As for anesthesia in thyrotoxic patients, it matters little what anesthesia is employed, but it does matter what anesthetist is employed (Slide 20). We believe that it is still the surgeon's responsibility, however, to make sure that the patient is well oxygenated throughout the entire procedure. Regarding treatment in the postoperative period, it is of interest to note that thyroid crisis has been successfully treated with massive doses of adrenocortical extract and with ACTH (adrenocorticotrophic hormone).

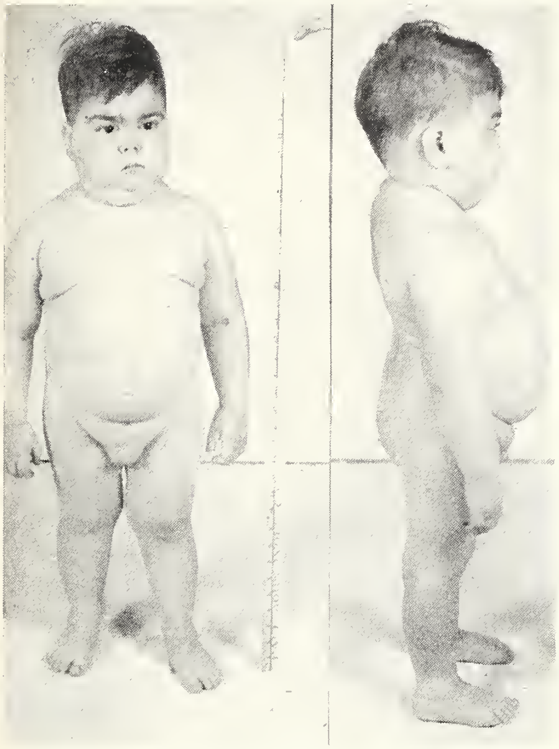
SLIDE 20. TABLE V — ANESTHESIA IN THYROTOXIC PATIENTS

The specific anesthetic is less important than the prevention of anoxia.

Perfect anesthesia and a competent airway are as important as the technical aspects of the operation.

SURGERY OF THE ADRENAL CORTEX

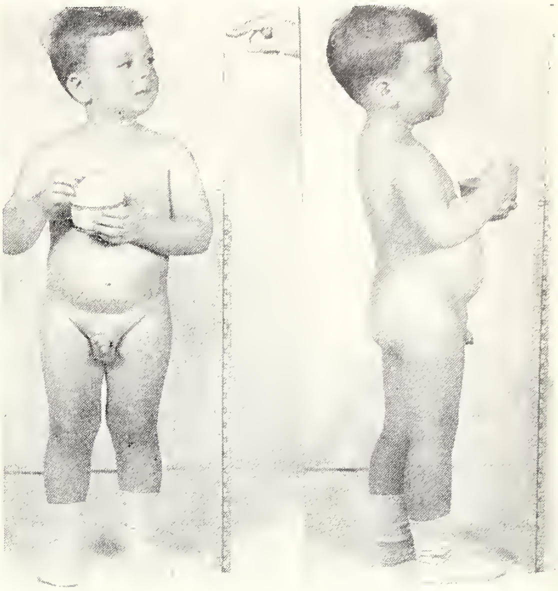
Finally, perhaps no other group of lesions requires more meticulous preoperative, operative, and postoperative management than do functioning tumors of the adrenal cortex. (Slide 21).



SLIDE 21. J. S. ADRENOCORTICAL HYPERTROPHY
This patient exhibited the following features of Cushing's syndrome: truncal obesity, moonface, hypertension, and deranged glucose tolerance curve. The physical and metabolic alterations characteristic of this syndrome are produced by the secretion of excessive amounts of **corticoids.** The adrenogenital syndrome, on the other hand, is characterized particularly by alterations in the secondary sex characters; this syndrome is produced by the secretion of excessive amounts of androgens, excreted in the urine as 17-ketosteroids. (Hardy, J. D., **Surgery and the Endocrine System,** Philadelphia, W. B. Saunders Company, 1952, p. 120.)

This grotesque little two-year-old boy had many of the features of Cushing's Syndrome, resulting from bilateral adrenocortical hyperplasia. The glucose tolerance curve was abnormal. Note the moon-face and obesity of the trunk. He had marked hypertension. Eighty per cent of each adrenal was resected at the same sitting through bilateral kidney incisions. The postoperative photograph (Slide 22), was taken five months after operation and the transformation to the appearance of a normal child is striking.

Such a patient should receive ACTH therapy (25 mg. intramuscularly every six hours) for three days preceding operation and should then receive adequate doses of cortical extract, cortisone, desoxycorticosterone, and saline and glucose solutions during and following operation. If adrenal crisis is to occur, it will usually manifest itself within 48 hours following operation, heralded by hypotension and excessive fever. Fortunately, the mortality attending operations upon the adrenal cortex has been greatly reduced as more adequate replacement therapy has become more widely and cheaply available. Every patient who is to have an adrenocortical tumor resected should be treated as if postoperative crisis were expected. It is by such expectant and aggressive therapy that the excessive mortality previously associated with the removal of these tumors has been greatly reduced.



SLIDE 22. J. S. FIVE MONTHS FOLLOWING SUBTOTAL RESECTION OF EACH ADRENAL GLAND
(Hardy, J. D., **Surgery and the Endocrine System.** Philadelphia, W. B. Saunders Company, 1952, p. 121.)

SUMMARY

The purpose of this discussion has been to touch upon principles of preoperative care which are employed to ready patients for various operations. We have not discussed a mythical patient for a mythical operation. In practice, we are usually not interested in abstractions. Rather, we are interested in a particular patient. The patient in whom we are interested will usually have a definite lesion for which a definite operation will be required. The preoperative preparation which our patient requires will and must be dictated by the variations from normal health which his particular lesion has produced.

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MISSISSIPPI STATE MEDICAL ASSOCIATION
Eighty-fifth Annual Meeting
Biloxi - May 12, 13, 14, 1953
House of Delegates Meets May 11, 1953

Chest Pain Simulating Coronary Pain

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BEFORE THE advent of the electrocardiogram many cases of coronary insufficiency or myocardial infarction were being tagged with such vague diagnoses as "acute indigestion", etc. If the patient had experienced substernal discomfort and indigestion prior to death, then his demise was attributed to "acute indigestion." If he was experiencing radiation of pain to his arms, neck, or jaws, "rheumatism" or "neuritis" was thought to be the cause of such discomfort.

At the present time the pendulum seems to have swung in the opposite direction. Now many patients are being condemned with heart disease because of some variant in the electrocardiogram. In some instances the electrocardiographic findings may be the result of cardiac pathology which had occurred many years before. In reality the chest pain experienced at the present time is in no way associated with the heart. Such a combination of abnormal electrocardiograms and chest pain is taxing our diagnostic acumen more each day. As the life span increases, the internist is seeing more senescent individuals. Many of these patients have abnormal electrocardiograms as a result of previous cardiac damage, and the heart in no way is associated with their present discomfort.

LESIONS OF THE ESOPHAGUS

Since coronary pain is often substernal, lesions of the esophagus may cause symptoms misinterpreted as heart disease. Esophagitis due to antibiotics such as chloromycetin, aureomycin, and terramycin may be manifest by substernal pain or burning. Often this discomfort is quite severe. Unless closely questioned, the patient may not mention recent medications since he has not associated it with his recent discomfort.

CASE: A sixty-five-year-old male was given terramycin for a urinary infection. Three days later he developed severe substernal pain and burning. The esophagitis became progressively worse and ultimately cardiospasm developed. The patient continued to have discomfort for one month before clearing.

The senescent patient often experiences pain in the region of the xiphoid immediately after a meal. This pain may be misinterpreted as angina, since anginal pain may also occur immediately after a meal. Solid food may actually lodge in the cardiac end of the esophagus in such patients without a pathological lesion being present. This abnormality in elderly patients is thought to be due to a loss of tone of the musculature of the esophagus. One or two drams of essence of caroid immediately after meals by its digestant action may relieve such symptoms.

Neoplasms of the esophagus especially at the cardiac end may cause constricting substernal pain. Later obstructive symptoms will occur.

HIATUS HERNIA

Pain due to hiatus hernia may closely resemble cardiac pain. The patient often complains of pain substernally or in the subxiphoid region which usually radiates along the left costal margin around to the inferior angle of the left scapula. Usually the pain originates or is made worse by lying down or following a heavy meal. Also, this pain may start following exercise such as heavy lifting so that it may be misinterpreted as cardiac pain.

CASE: A physician, age 50 years, began having substernal pain radiating to the left costal margin. Often the pain occurred following a heavy meal. An electrocardiogram revealed minimal changes which were interpreted as heart disease. Accordingly the patient limited his practice for several years. Later, radiographic studies revealed a very large hiatus hernia.

Hiatus hernias are being detected more frequently as radiographic technique improves. This clinic has observed 70 cases of hiatus hernia in the past five years. Routine gastrointestinal x-ray studies may fail to reveal a hiatus hernia. Often it is necessary to place the patient in several different positions, each with the head and chest dependent in order to demonstrate such a herniation.

CARDIAC NEUROSIS

Pain of cardiac neurosis is difficult to evaluate accurately. Usually the patient will complain of pain over the precordium in the apical region, instead of substernally. It is not associated with effort, but instead with fatigue. Emotional strain or anxiety may aggravate such pain. The pain also may be aggravated by lying down if the patient lies on the left side so that the heart beat is more perceptible. The pain may actually be relieved by nitroglycerin but only because the sensation of fullness in the head or the production of an actual headache may so distract the patient's attention from the precordium. Pain of cardiac neurosis usually lasts for hours or even days. Once asleep the patient will rarely awaken by it. If the patient happens to be hyperventilating, then numbness of the hands and arms may also be present.

It is still more difficult to evaluate the pain of cardiac neurosis in the patient who recently has had a coronary occlusion. Many such patients are quite heart-conscious as a result of organic heart disease and may complain of vague precordial discomfort for months or years following the initial acute attack. The physician is very reluctant to label the pain functional in origin because of a previous organic episode.

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The pain, however, still occurs over the precordium, and in the left infraclavicular area in spite of the fact that the organic pain he previously experienced was substernal. The patient will frequently complain of actual tenderness over the precordium, a factor rarely present with organic heart disease. This patient must be handled with utmost care. If some normal variant in the electrocardiogram is misinterpreted and the patient is actually told that he has heart disease, a permanent cardiac invalid will be the result.

RUPTURED CERVICAL INTERVERTEBRAL DISC

Pain from a ruptured cervical intervertebral disc may closely simulate that caused by heart disease. Usually the pain is in the infraclavicular area and also radiates down the arm. If such pain occurs on the right side, the patient is not likely to consult a physician unless severity of the pain warrants such. Left-sided pain, however, will cause an early consultation. When informed of the nature of his trouble, the patient will often remark that his pain is minimal, but he was merely concerned regarding the significance. Pain radiating to the arm usually occurs over the deltoid area and lateral aspect of the upper arm to the elbow. Rarely it will extend to the forearm and fingers. The patient will usually give a history of previous "cricks" in his neck and occasionally may recall a definite injury in the past. Such neurogenic pain may also radiate to the occipital, parietal, and temporal areas of the head and on occasion even to the face. Also, it may radiate to the region of the rhomboid muscles of the back. The pain may be described as a "hot" pain. A perplexing situation is the co-existence of neurogenic pain and cardia pain.

CASE: A physician, age 60, was complaining of precordial and left arm pain. He had previously had a coronary occlusion five years before. An electrocardiogram revealed inverted T-2 and T-3 waves. He had been taking nitroglycerin with questionable relief. X-ray studies revealed changes in the cervical spine suggestive of a ruptured cervical intervertebral disc. Head traction resulted in alleviation of his pain.

DISSENTING AORTIC ANEURYSM

Pain from this disorder frequently begins substernally and is very intense. The clinical picture of severe substernal pain associated with the pale, cold, and clammy appearance of the patients may closely resemble that of a recent myocardial infarction. Usually, though, the pain radiates through to the back and is described by the patients as a tearing pain. Larger doses of narcotic are required and it is necessary that they be given at more frequent intervals. The usual case of myocardial infarction will be free of intense pain in three or four days after the onset. A case of dissecting aneurysm may continue to require large doses of opiates for many days if he lives that long. The character of this pain may change. As the dissection progresses pain may radiate to the arms, neck, lower back, abdomen, and even into the lower extremities. One should be suspicious of a dissecting aneurysm if such a clinical picture is present with persistently normal electrocardiograms. At first the clinician may feel that the electrocardiographic changes will occur later and he is surprised to find the same normal tracings after three to four days.

Since the dissection usually begins in the ascending aorta, the ostia of the coronary arteries may be incorporated in the process so that electrocardiographic changes may occur.

Dissecting aneurysms are more apt to occur after age 50 years and in hypertensive individuals. In some cases a chest film may reveal abnormal aortic shadows which may arouse suspicion of a dissecting aneurysm.

There is no specific treatment for this disorder. Rarely, the aneurysm will dissect back into the lumen of the aorta and the patient may be free of symptoms for days or weeks. Later the outer coat of the aorta may rupture, with sudden death resulting.

SPONTANEOUS PNEUMOTHORAX

The sudden pain of a spontaneous pneumothorax may be misinterpreted as cardiac pain. The pneumothorax often occurs while the patient is forcefully vomiting or straining at heavy lifting, etc. If an entire lung is collapsed he may present the picture of shock, due to sudden cardiac embarrassment. Such a patient will be found sitting up in bed and the trachea will be noticed to deviate sharply to the opposite side. Marked dyspnea may accompany the pain. The physical findings of hyper-resonance and absent breath sounds may help make the diagnosis. X-ray films of the chest will reveal the absence of lung markings over the affected side. The pain of pneumothorax rarely occurs substernally. It may occur in the precordial area, infraclavicular area or along the costal margin. If the lung apex is affected, the patient may also complain of ipsilateral pain in the arm.

SUMMARY

Many disorders of the chest may produce pain which is misinterpreted as cardiac in origin. The electrocardiogram may actually be misleading due to the fact that residual changes are present as a result of previous cardiac episodes.

The Treatment of Diabetes by the General Practitioner[*]

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The treatment of the diabetic patient has four objectives: 1) to relieve symptoms, 2) to maintain normal nutrition, 3) to prevent complications and 4) to permit the patient to live a normal or relatively normal life. In general, these objectives are accomplished by the control of hyperglycemia and glycosuria, by diet, insulin, exercise and an optimistic attitude.

In passing, it is worth restating that the mere finding of sugar in the urine is not enough laboratory evidence upon which to base a diagnosis of diabetes, even though the history and physical findings are strongly suggestive. The diagnosis may usually be established by an elevated fasting blood sugar. If the blood sugar is normal and a reducing substance is found in the urine, a glucose tolerance test is essential. To make a diagnosis of diabetes when none exists, or fail to make one when it does exist can be disastrous for the patient and perhaps for the physician as well.

Once the diagnosis is made, the first step in the treatment is the instruction of the patient and his family as to his diet and general care. They should understand that the treatment is a life-long affair, but that the outlook is by no means unfavorable provided they lend their fullest cooperation in the observance of the required measures.

The patient must also be taught to make his own urinalyses by the Clinitest. He should be impressed with the necessity of making the test four times daily, before each meal and at bedtime, and of recording the results to serve as a guide in the treatment. If insulin is required, he must be instructed in the technic of administration in order that he may give the injections himself.

In the mild case of diabetes, glycosuria and hyperglycemia may usually be controlled and the symptoms relieved with little difficulty by diet, or by diet together with a small amount of insulin. The diet must be adapted to the needs of the individual, based upon his weight, age, sex, occupation and activities. A special plan must be worked out for those who take their lunch or are accustomed to having lunch at a restaurant, and for those who work at irregular hours.

Qualified nutritionists have found that we all need an adequate supply of vitamins and minerals and have outlined diabetic diet of basic foods which will supply these elements. They have also compiled a list of fruits and vegetables, showing their carbohydrate content, to permit a selection of the proper amounts. A partial list of these items is given below.

PARTIAL LIST OF FRUITS AND VEGETABLES GROUPED ACCORDING TO CARBOHYDRATE CONTENT

Group I:
- Asparagus, fresh or canned
- Beet greens, fresh
- Broccoli, fresh
- Cabbage, fresh
- Celery, fresh
- Cucumbers, fresh
- Lettuce, fresh
- Mustard greens, fresh
- Radishes
- Rhubarb, fresh
- Spinach, fresh or canned
- Squash, summer, fresh
- Tomatoes, fresh or canned
- Tomato juice, canned
- Turnip tops, fresh

Group II:
- Beans, snap, green and wax, fresh
- Blackberries, canned, winter packed
- Cantaloupe
- Carrots, canned
- Collards, fresh
- Eggplant, fresh
- Kale, fresh
- Okra, fresh
- Peaches, canned, winter packed
- Pumpkin, fresh
- Soybeans, green, shelled, fresh
- Squash, winter, fresh
- Strawberries, fresh or canned, winter packed
- Strawberry juice, fresh
- Turnips, fresh
- Watermelon, fresh

Group III:
- Applesauce, canned, unsweetened
- Apricots, canned, winter packed
- Artichokes, globe, fresh
- Beets, fresh
- Blackberries, fresh
- Brussels sprouts, fresh
- Carrots, fresh
- Grapefruit, fresh or canned, winter packed
- Grapefruit juice, fresh
- Lemon juice, fresh or canned, unsweetened
- Limes, fresh
- Onions, fresh
- Oranges, mandarin, fresh
- Peaches, canned, juice packed
- Pears, canned, winter packed
- Peas, fresh, very young, or canned
- Prunes, canned, winter packed
- Tangerines, fresh

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[*] From the Rudner Clinic, 1108 Madison Avenue, Memphis, Tennessee.

Group IV:
- Apple juice, fresh
- Apricots, fresh
- Lima beans, green, canned
- Cherries, sour, fresh
- Cherries, white and red, canned, juice packed
- Oranges, fresh
- Orange juice, fresh or canned, unsweetened
- Peaches, fresh
- Pineapple, fresh or canned, winter packed
- Pineapple juice, fresh or canned, unsweetened
- Plums (excluding prunes), fresh

It should be remembered that the fruits and vegetables in Group I have the lowest carbohydrate content and those in Group IV have the highest. Thus, foods in Group II have twice the amount of carbohydrates as those in Group I, those in Group III have three times as much, and those in Group IV have four times as much.

Most other fruits and vegetables are high in carbohydrate content and should be calculated at their own values. A complete list of foods, with their respective evaluations, may be obtained from the U. S. Department of Agriculture. The above list was taken from the U. S. Department of Agriculture Circular No. 539 and Miscellaneous Publication No. 572.

The following basic diet is recommended:

BASIC DIET

Approximately 1200 calories; average household measures. Carbohydrates, 100; proteins, 75; fats, 60.

½ cup cooked enriched oatmeal
2 slices enriched bread
1 egg
2 strips bacon
5 teaspoons butter, enriched oleomargarine or oil
3 slices lean cooked meat, fish or poultry (about 3 x 2½ x ¼ inches) or equivalent
1 pint whole milk or ½ pint evaporated milk
1 tablespoon coffee cream
Fat-free broths as desired

Fruit:
2 to 3 servings, including 1 citrus fruit or tomato and 1 raw fruit. Select 2 1/3 portions from Group III or ½ portion from Group IV, plus 1 portion from Group III, plus 1 portion from Group II in list above (such as grapefruit, peaches, pears).

Vegetables:
2 to 4 servings of one "yellow", such as carrots; one "green", such as kale; one "root", such as potato, and one raw vegetable. Example: ½ medium-sized potato plus 3 portions from Group I, plus 1 portion from Group III, plus 1 portion from Group II in list above.
Dzerta, tea and coffee, without sugar and cream.

To increase the basic food intake to approximately 1500 calories, add:

1 slice lean meat, fish or poultry, or equivalent
1 slice enriched bread
1 glass whole milk or ½ glass evaporated milk, or
1 glass buttermilk plus 1 scant teaspoon butter.

To increase the basic food intake to approximately 1800 calories (from 1200) add:

½ cup cooked rice
1 slice bread
1 egg yolk
2 portions of either fruit or vegetables from Group II, or 4 portions from Group I, or 1 1/3 portions from Group III, or 1 portion from Group IV in the above list.
5 teaspoons butter or oil
2 tablespoons coffee cream
Meat as follows: 2 all beef weiners, or ½ small lean pork chop, or lean smoked ham (approximately 2 x 2 x ¼ inches), or baked, broiled or boiled fish (approximately 2 x 3 x ½ inches).
No sugars, syrups or concentrated sweets of any kind are allowed.

If the patient is a child, the diet may be outlined according to the number of calories, as follows:

1000 calories at age of 1 year
100 calories additional for each year to age of 9
Thereafter, not over 200 calories additional for girls to about age of 16; boys may be allowed more.

The quantities given in the above basic diet may be divided into three, four or five meals, to suit the patient's convenience. Substitutions may be made according to his personal desires and the market availability of the foods. The patient need not be denied the foods to which he has been accustomed, though the amounts may have to be reduced. The purpose of the diet is to maintain good nutrition and correct weight.

To illustrate how the meals may be arranged, a sample day's menu is given below: *

SAMPLE MENU
1200 Calories

Breakfast:
½ grapefruit or small orange
½ cup (scant) cooked enriched cereal with cream and butter (from day's allowance), sweetened with sucaryl or saccharine
2 strips lean, crisp bacon
Tea or coffee with small amount of milk or cream but without sugar

Lunch (box):
1 cup fat-free broth (in thermos)
1 pint milk (in thermos)
2 slices enriched bread with small amount of butter or with a slice of meat (from day's allowance) as in a sandwich
Small apple or equivalent
Small raw carrot
Hard boiled egg (if none taken at breakfast)

Dinner:
Meat (remainder of day's allowance)
Fruit (remainder of day's allowance), such as peaches or pears, in
Dzerta (sugar-free gelatine dessert)
Vegetable (remainder of day's allowance), such as ½ medium-sized potato, plus fresh combination salad served with oil and 1 teaspoon lemon

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* Note: The authors gratefully acknowledge the assistance of Mrs. Adelaide Folz, R. N., in the preparation of the list of foods, diet and menu given herein.

juice or vinegar, plus 1 cup greens, plus ½ cup beets.

Vegetables should be boiled and seasoned only with salt and butter.

Incidentally, in discussing the dietary regimen with these patients, the word "diet" is best avoided. Many patients subconsciously resist the necessity of dieting and, as a consequence, fail to cooperate properly. More acceptable terms are "daily food intake" and "food list".

If the patient's symptoms cannot be controlled by diet alone, insulin therapy is indicated in addition to the diet. The three types of insulin in common use are: 1) the promptly acting plain insulin, which is used in emergencies and as an adjunct to longer acting types; 2) NPH insulin, which acts within a short time and is effective for 12 to 14 hours, and 3) protamine zinc insulin, which takes effect more slowly but has a more prolonged action. A fourth type, globin insulin, which has an intermediate action, has no advantage over a mixture of protamine zinc and plain insulin or NPH insulin.

The insulin dosage is determined according to the degree of glycosuria, shown by the Clinitest, as follows:

4 plus glycosuria - 20 units insulin daily
3 " " - 15 " " "
2 " " - 10 " " "
1 " " - 5 " " "

For the majority of patients, we have found 8 to 16 units of NPH insulin daily before breakfast adequate as a starting dose. If glycosuria does not disappear, the insulin is gradually increased until at least one specimen of urine daily is sugar free. (A negative glycosuria in all four specimens is of course desirable, though actually one negative specimen a day is sufficient.) If necessary, as much as 40 units of NPH insulin may be given daily. When a larger quantity is required, plain insulin is added to the 40 units of NPH insulin. Occasionally, if the diabetes is severe, an extra amount of plain insulin may be given before supper. As the condition is brought under control, the plain insulin may be omitted and the patient continued on the one daily injection of NPH insulin. After the basic needs of insulin and diet are established, the patient should be maintained on the regimen with little variation.

While new patients are more easily handled on NPH insulin, a patient whose disease is being well controlled on protamine zinc insulin should be allowed to continue its use.

In addition to diet and insulin, a moderate amount of exercise every day is recommended for diabetic patients, not only as a general health measure but also because it promotes carbohydrate tolerance. Fatigue, however, tends to reduce carbohydrate tolerance and should be avoided.

These patients should be cautioned against acquiring any type of infection. Ordinary colds may be associated with an elevation of blood sugar. Severe infection may lead to coma. For this reason, during the course of infections the Clinitest should be made more often and the insulin adjusted to meet the requirements, according to the table above. In view of the danger of gangrene, patients should be especially careful to avoid infections of the feet.

A warning should also be given concerning the danger of an insulin reaction from an overdose of insulin or failure to take sufficient food. In the presence of vascular disease, particularly coronary disease, such a reaction carries serious risk. The symptoms of shock may not appear until the blood sugar falls to 40 mgm. per cent or lower, though milder symptoms such as hunger, nervousness, sweating, drowsiness, double vision and incoordination of movement may be associated with a blood sugar of around 70 mgm. per cent. Insulin shock is manifested by excessive perspiration, clammy skin, bounding pulse, quiet breathing, loss of consciousness and convulsions. The Clinitest gives a negative reaction and the blood sugar test shows hypoglycemia.

For the patient in shock, 50 cc. of 50 per cent glucose administered intravenously will bring about an immediate return to consciousness. If the patient is receiving the longer acting NPH or protamine zinc insulin, glucose therapy must be maintained until the shock has been completely counteracted, even though it may persist in some degree for as long as 36 hours.

Coma, the most serious emergency in diabetes, may be produced by several factors, including neglect of treatment, over-eating and other excesses, infections and hyperthyroidism. At times, a patient may lapse into diabetic coma following a surgical procedure, or, coma may usher in an acute phase of diabetes.

The early symptoms include loss of appetite, thirst, weakness, malaise, drowsiness, nausea and vomiting, headache, and aching or pain in the abdomen. These are quickly followed by dehydration, difficult breathing, circulatory changes as indicated by red lips, flushed face and cold extremities, often by fever, and finally by coma.

The patient with incipient coma should be given 50 units of plain insulin immediately in the home, wrapped up thoroughly and removed to a hospital for complete laboratory studies and proper medical and nursing care. Blood sugar and nonprotein nitrogen tests should then be made, as well as urinalyses for acetone and sugar. Once the diagnosis is determined, the treatment should be aggressive. Plain insulin should be given, the amount depending upon the initial blood sugar. The average dose is 60 to 80 units. In severe cases, 50 units should be given every 1½ hours; the average patient requires 200 units within five hours. The outcome depends largely upon the amount of insulin given early in the treatment. At the same time, fluid balance should be restored by the administration of saline intravenously. Between 1000 and 1500 cc. normal saline during the first six hours is recommended. For convenience and prompt response, the insulin may be combined with the saline solution. If the patient becomes acidotic, 50 per cent glucose with insulin, 20 units to every 5 gms. sugar, is given. In addition, gastric lavage with sodium bicarbonate solution is instituted to prevent distention. Also, if necessary, oxygen is administered by nasal catheter or tent. A retention catheter should be inserted in order that the urine may be checked at intervals of one hour for acetone and sugar.

The blood sugar test is repeated at the end of three hours. If hyperglycemia persists, insulin therapy should be continued; if necessary, as much as 100 units may be given.

Fluids by mouth should be started as soon as tolerated by the patient. The following is suggested as an emergency liquid diet:

2 oz. skimmed milk alternating with 2 oz. unsweetened orange juice, together with
2 oz. water
To be taken every two hours.

When the patient responds to these measures and the blood sugar begins to drop, the intervals between the insulin injections and between the urinalyses may be increased. Once the blood and urine are negative, the insulin dose may be reduced to the regular amount and the usual diet resumed. If the coma has been severe, the patient should be kept in bed for at least one week, even though he may feel perfectly well.

Fortunately, unless complications arise, the diabetic patient may care for himself in the home once his regimen has been established. He should, however, promptly consult his physician if an appreciable glycosuria appears or if even a slight glycosuria persists, if he develops an infection, if he experiences a recurrence of his previous symptoms, or if any other abnormal signs and symptoms appear. The physician should insist that the patient also return to his office at specific intervals for a physical review, usually twice weekly in the beginning and gradually increasing the interval between visits to one month. On these occasions, the physician should question the patient as to his general condition and symptoms, examine the Clinitest record, observe the weight and give any new instructions necessary. Under these conditions, complications and degenerative changes common to diabetes may not only be delayed for years, but may often be prevented entirely.

The patient with diabetes needs, in addition to physical therapy, to cultivate an optimistic attitude toward his disease. Many of these individuals are prone to develop a morbid mental outlook. If the patient is a child, undue attention to his condition may lead to behavior problems. The physician can go far toward overcoming such tendencies by explaining to the patient and his family the nature of the disease and reasons for the treatment, without too much insistence upon the exact performance of minute details of the diet, and by encouraging the patient at every opportunity. The patient will then be more likely to consider the goal of treatment in its simplest terms, i.e., that he may enjoy a long and reasonably normal life, and will thus cooperate best in the treatment, with the most fortunate results.

————§————

The story of chlorophyll in medicine and its clinically substantiated properties as an aid to normal healing are described comprehensively in a new booklet prepared by the Rystan Company which is now available without charge to physicians, pharmacists, schools and libraries.

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Copies of "Chlorophyll in Medicine" may be obtained directly from the Company offices in Mt. Vernon, New York.

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Tuberculosis is a special hazard to the person who has a severe form of diabetes, particularly to the diabetic who is under forty. Some workers believe that the increased susceptibility of the diabetic to tuberculosis is due to a disturbance of protein and fat metabolism.

The Treatment of Hemangiomas

WM. MILTON ADAMS, M.D., and LORENZO H. ADAMS, M.D.
Memphis, Tennessee

HEMANGIOMAS constitute the largest single group of benign tumors observed in childhood. One of every ten infants has one or more such marks at birth. The usual sites are the most conspicuous; over 50 per cent appear on the head and neck. They vary in size, some being no larger than the head of an ordinary pin, while others cover wide areas. Rarely, almost the entire surface of the body and even the internal organs are involved.

The most common type is the simple, superficial capillary hemangioma which appears chiefly on the back and neck and between the brows. These are of no significance and will fade away within a few months.

The more complex capillary hemangioma, known as the "port wine stain", involves all the dermis and subcutaneous tissue and has a thin, velvety surface. This type is produced by an increase of the capillaries and venules or arterioles in the deeper layers of skin and the underlying tissues. The majority of such lesions appear on the head and neck. They do not grow in themselves, but enlarge with the growth of the individual. The fact that these capillary hemangiomas have a well differentiated lining of the adult variety is of considerable importance from a therapeutic standpoint, as it explains their resistance to all forms of therapy except surgical excision.

Another type of hemangioma, generally called the "strawberry mark", is the hypertrophic endothelial hemangioma. As the name indicates, it consists of masses of endothelial cells which multiply rapidly, displacing the skin and subcutaneous tissues, and even bone. The growth of these cells is so prolific that many of the blood vessel walls are compressed and appear only as fissures in the histologic section. The lesion, with its bright red, irregular elevation above the surface of the normal skin, may be considered locally malignant in that it tends to spread and even metastasize.

Still another variety, the cavernous hemangioma, is a soft, compressible tumor consisting of large, thin-walled sinuses with a limited quantity of intervening stroma. Capillary hemangiomas may become cavernous, or both capillary and cavernous elements may be found in the same tumor.

Cavernous hemangiomas are not uncommonly observed about the face. Usually they are asymptomatic, though they may produce marked enlargement of the nose, ears, lips, tongue or other structures and seriously interfere with function. This type, also, may increase in size with more or less rapidity. Severe hemorrhage incident to slight trauma is a constant danger. When such hemorrhage takes place, the lesion should immediately be covered with a pressure bandage and excised surgically as soon as possible.

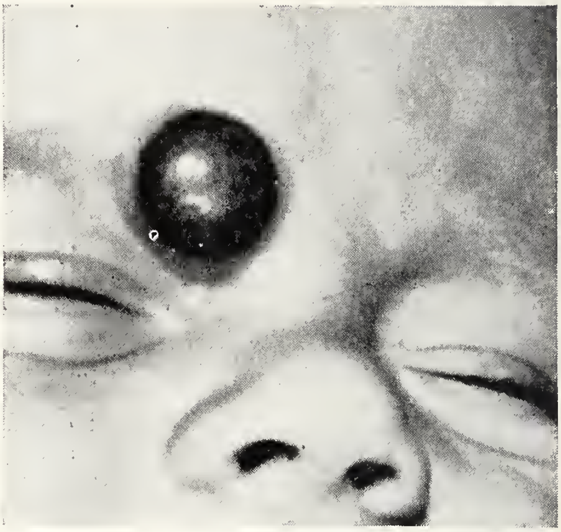

Fig. 1-A

Cavernous hemangioma approximately ½ inch in diameter at the inner margin of the right eyebrow in a child aged 4 months. The tumor had been gradually increasing in size since birth.

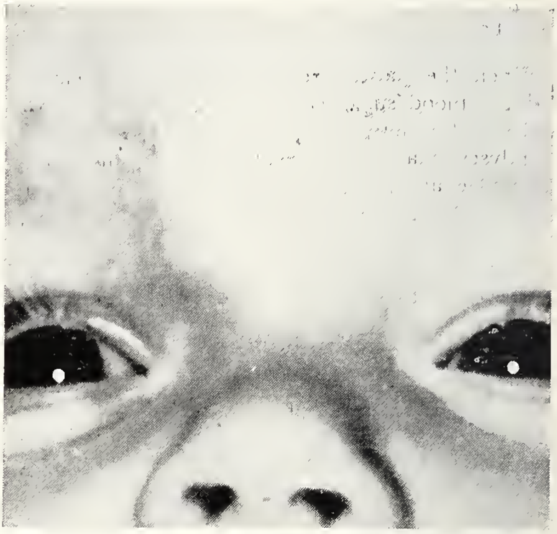

Fig. 1-B

Result following excision of the lesion and primary closure of the defect. There is no distortion of the eyebrow or noticeable scar.

The method of treatment of hemangiomas will depend upon the type, size and location of the lesion. Aside from the superficial variety, which

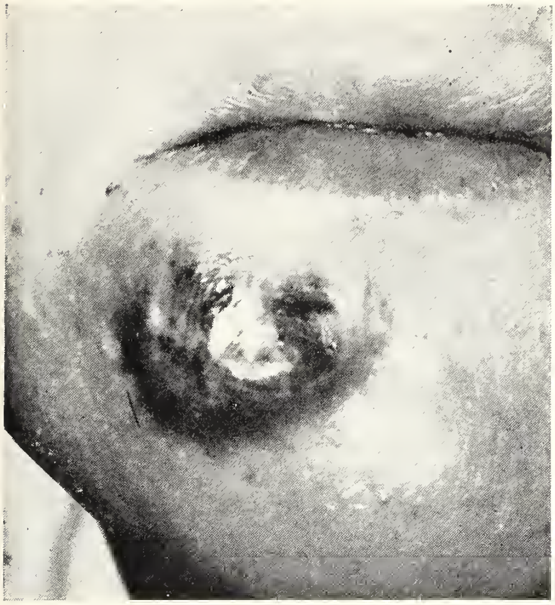

Fig. 2-A
Cavernous hemangioma involving the lower lip and chin in a girl aged 17 years. The mass extended throughout the full thickness of the lip.

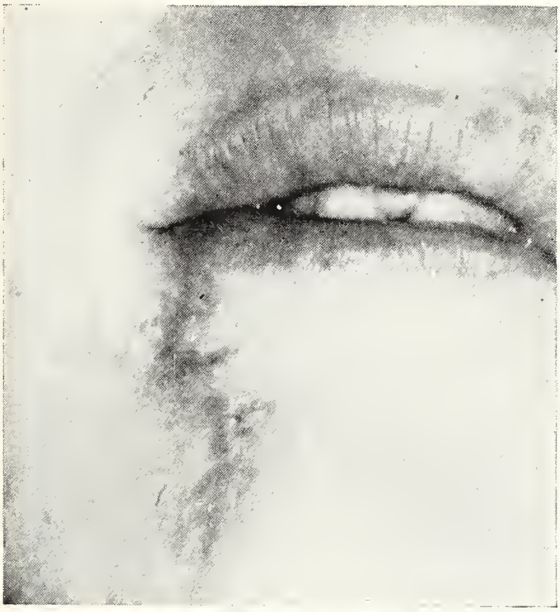

Fig. 2-B
Result following complete excision of the lesion and closure of the defect in one operation. The Zeta-plasty method of closure was employed in order to prevent contraction of the lower lip in healing of the wound.

may be expected to disappear spontaneously, all hemangiomas should at least be watched carefully and promptly removed if they begin to increase in size. Preferably, they should be removed during the first few months of life, whether or not any change is observed.

The usual methods of treatment consist of the application of carbon dioxide, the injection of sclerosing solutions (usually sodium morrhuate), electrical desiccation, irradiation by x-ray, radium or radon seeds, and complete surgical excision.

The disadvantage of carbon dioxide lies in the fact that a poor cosmetic result is likely to follow. If the lesion is eradicated, the patient

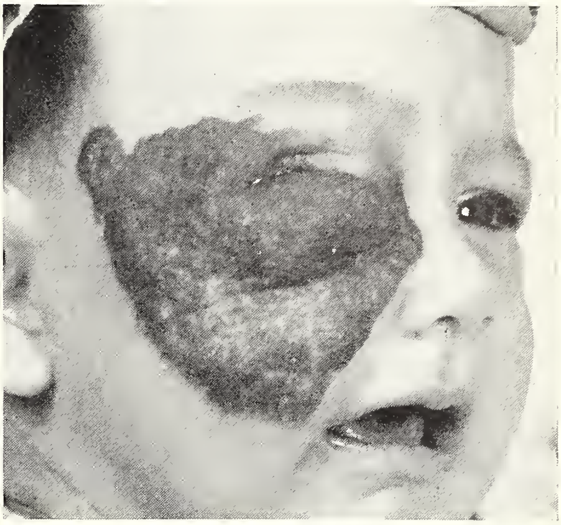

Fig. 3-A
Strawberry hemangioma superimposed upon a cavernous type in a child aged 15 months. The lesion involved the major portion of the right side of the face, including the lower eyelid and extending into the orbit and antral spaces.

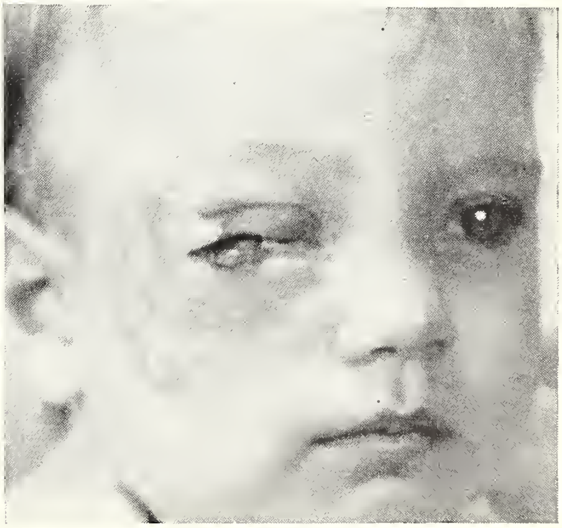

Fig. 3-B
Practically the entire mass was excised and the defect was covered with a free skin graft, in one procedure. The operation was performed nine years ago as a temporary plastic correction. Thus far, we have been unable to get the patient to return for cosmetic revision. Although the immediate result is not perfect, the patient is rid of the lesion and the danger of its spreading.

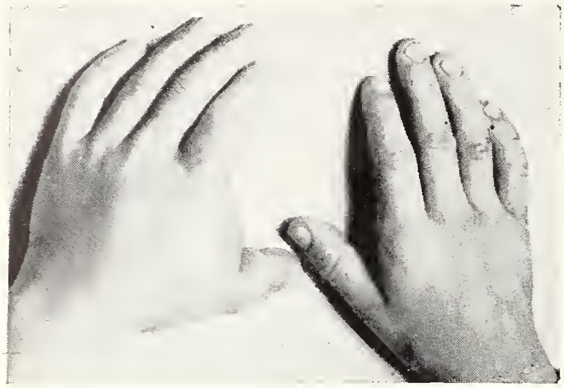

Fig. 4-A
Cavernous hemangioma of the invasive type involving the hand of a child aged 7 years. Although some enlargement had been present since birth, the tumor had been rapidly increasing in size for one month. Since surgical treatment would have required extensive dissection of the hand, sodium morrhuate was injected as a trial measure. To our surprise, after 3 injections the tumor apparently completely disappeared.

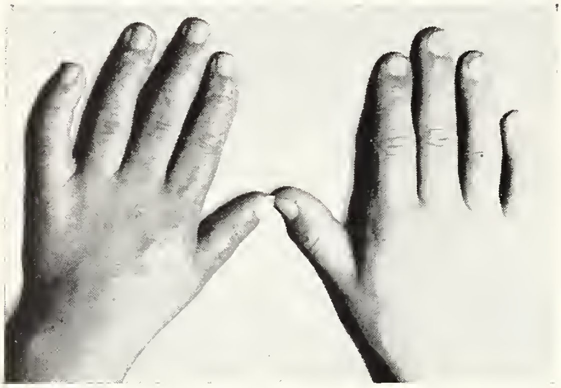

Fig. 4-B
Result six months after treatment. The function of the hand was normal.

is usually left with a white burn scar which is almost as disfiguring as the original lesion and perhaps even more so. Carbon dioxide has no place in the treatment of deep hemangiomas.

The injection of sclerosing solutions is best applied to hemangiomas which cannot be removed surgically without loss of a part, such as the nose, ear or lip. In such cases, the cosmetic result is usually good and the part is saved for function.

In treating hemangiomas with sclerosing solutions, one should be thoroughly familiar with the reactions from the particular drug employed and should give only small doses. In the average capillary tumor, we inject a small droplet, using a 30-gauge needle. For larger hemangiomas, a 26-gauge needle is used. An insulin syringe is preferable for the treatment of small lesions, in that a very small amount of solution may be in-

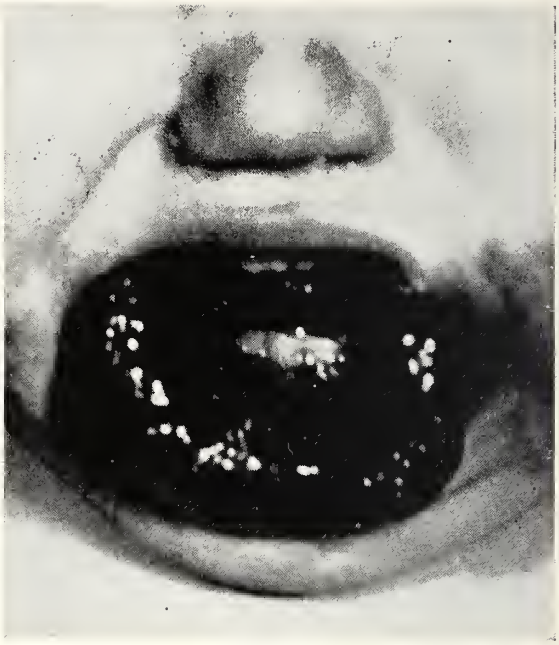

Fig. 5-A
Extensive cavernous hemangioma involving the lower lip, cheek and tongue in a child aged 1 year.

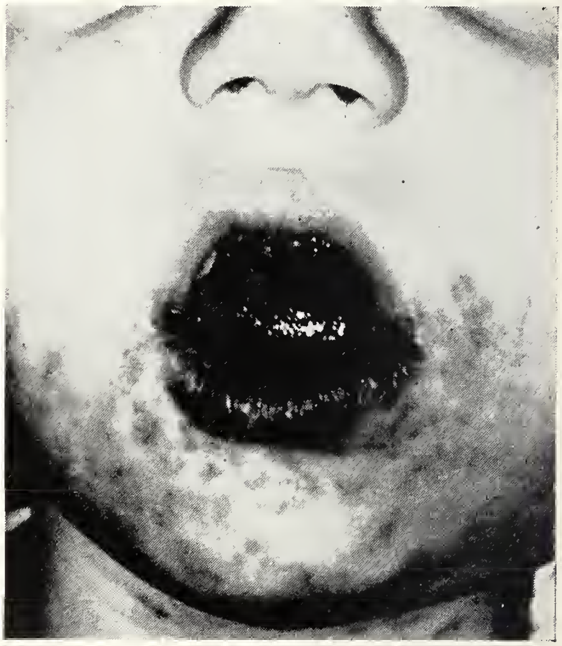

Fig. 5-B
One year after radical excision of the hemangiomas of the lower lip and tongue. Following surgery, several sodium morrhuate injections were introduced into the hemangiomatous area of the cheek.

This child had hemangiomatous areas over many parts of the body. From time to time, treatment with electrodesiccation, sodium morrhuate and partial excision has been tried. Several areas were treated by x-ray, but without favorable response. Four years have elapsed since the first operation.

The condition improved until about six months ago; at that time, all the involved areas began to increase rapidly. At present, almost the entire surface of the body is one hemangiomatous mass, and apparently, most of the internal structures, including the brain, are involved. The lip is almost ½ as large as when the child was first observed. All other measures having failed, efforts are now being made to provide treatment with one of the newer radioactive isotopes.

jected into any one location. In order to prevent necrosis from concentration of the solution, it should be distributed over scattered areas by movement of the needle. If possible, pressure should be applied around the lesion during the injection, as a precaution against absorption of the solution into the general circulation. As soon as the needle is withdrawn, a rubber sponge pressure bandage should be applied and kept in place for several days.

When electrical desiccation is employed, the needle should be applied at multiple points within the tumor. To prevent or minimize scarring, excessive desiccation at any one point should be avoided. A sharp-pointed electrode may be used, though we prefer a needle 2 to 3 inches in length, which is coated with a non-conducting material except at the point. One may insert the needle and maneuver it so as to reach different areas without causing a burn of the skin at the point of entranee.

Although many hemangiomas may be eliminated by injections of sclerosing solutions or electrical desiccation, the majority will not respond completely to such measures. Moreover, the treatment by both these methods is prolonged. In our experience, they are most often suitable for reducing the size of large hemangiomas as a preliminary to surgical excision. The tumor may then be completely removed in one simple operation and the wound may be closed primarily, without a graft.

Irradiation by either x-ray, radium or radon seeds should be used in the treatment of only those hemangiomas which have failed to respond to the more simple methods. When administered as an initial therapy the immediate results of irradiation may be excellent, though there is always danger of radiodermatitis with its tendency to malignancy. Moreover, if the patient is a child, irradiation is likely to be followed by an arrest of growth of the soft tissues and bone; one will be distressed twelve or fifteen years later to observe that the child has a marked facial asymmetry from arrested development of the treated side. For these reasons, irradiation of hemangiomas should be limited to those lesions which, following surgical excision or other treatment, recur quickly and spread rapidly, and those showing malignant changes.

The treatment of choice for hemangiomas is surgical excision. In the first place, the results are the most satisfactory in the largest number of cases. Further, in contrast to the prolonged treatment required by most other methods, the majority of hemangiomas may be completely excised and the sutures removed within four or five days; thus, the patient is entirely well within one week.

Many small hemangiomas may be removed in the office. More extensive lesions may necessitate hospitalization of the patient, but may still be removed in a single operation. Large lesions may require excision in multiple stages and repair of the defect with a free skin graft or pedicle flap.

Multiple hemangiomas which involve wide areas of the body cannot be removed entirely or satisfactorily controlled by any or all the methods available. At best, one can remove only those portions which are most disfiguring or a handicap to function.

The majority of poor results of treatment of hemangiomas may be attributed to two factors: 1) Prolonged delay on the part of the physician and family in the hope that the lesion will disappear or regress. Although regression may take place occasionally, as a rule the lesion continues to grow, making treatment more difficult and complete eradication with a good cosmetic result less likely. 2) The selection of the wrong therapeutic agent, without proper concern for the type, depth and extent of the lesion.

The following illustrations show some of the major types of hemangiomas, their treatment and the results.

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There are 376 persons still on pension rolls from the Indian wars.

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The purchasing power of the dollar in 1935 had an index of 99.5. Today, it's 44.0.

Breast Papillomas[*]

THEODORE WINSHIP, M.D.[†] and BONITA GODWIN, B.A.[††]
Washington, D. C.

A PAPILLOMA OF the breast is a complex, localized, branching proliferation of the lining cells of the duct, projecting into the lumen. It is characterized by ingrowths of rather small, uniform epithelial cells attached to a vascular, fibrous stalk. In many instances, it has anastomosing branches which may eventually fill the duct. At times, papillomas contain a small, rounded mass of hyalinized fibrous tissue which is thought to be scar tissue secondary to trauma. This focus of fibrous tissue may enlarge gradually until the entire papilloma is replaced by an acellular, avascular, fibrous mass, and occasionally lesions of this type disappear entirely.

Papillomas of the breast may be classified as single and multiple, central and peripheral, gross and microscopic, or benign and malignant. Since microscopic papillomas are present in approximately fifty-three per cent of all cases of chronic cystic mastopathy[1] they are not included in this discussion. (The term "chronic cystic mastitis" is not used because this condition is not inflammatory.) In chronic mastopathy, papillomas are associated with the lumpy breast which is composed histologically of duct dilatation and stasis, blunt duct adenosis, cysts, periductal mastitis, duct cell hyperplasia, fibrosis and sclerosing adenosis. Writers who claim that twenty-five per cent of all papillomas are multiple are obviously including the microscopic lesions. Gross papillomas are usually single and are not necessarily associated with other benign or malignant breast lesions. Central papillomas are much more frequent than peripherally located papillomas. The explanation of this is probably in the comparatively smaller size of the peripheral ducts. When a large papilloma does occur peripherally, blood resulting from trauma often does not reach the nipple, and one of the common symptoms is not present.

Thus, the significance of breast papillomas is reduced, for the most part, to the centrally placed, macroscopic lesions.

In order to establish the facts concerning the real or imaginary potentialities of papillomas, the statistics from six large series of cases were consolidated. [2-6] Other reported series were excluded because many of the lesions were obviously the small papillomas associated with chronic cystic mastopathy.

Data from the total of 668 reported cases, including the present series, show that papillomas occur at almost any age from 16 to 78 years, but the average is 44 years. In contrast, the average age of woman with breast carcinoma is 52 years. The average duration of symptoms from papillomas is thirteen months, with a variation from one week to fourteen years.

The most common symptoms are a palpable mass and nipple discharge. A palpable mass, frequently evanescent, is present in eighty-two per cent of all papillomas. The lesion is centrally placed in eighty-eight per cent of the cases and may be directly beneath the nipple. The papilloma is almost always single and may vary in size from 1 mm. to 6 cm. A papilloma is seldom painful and rarely is fixed to the skin or to the adjacent breast tissue, but these signs may be present if there has been infection.

The diagnosis of breast papillomas is complicated by the fact that from seven to ten per cent of all breast lesions, including chronic cystic mastopathy, papilloma and carcinoma, produce a discharge. No standards have been established, as yet, to determine the significance of the various types of discharge for comparative study, and only recently has there been any effort to examine nipple discharge routinely. This examination is by no means universal now, but it is becoming more common following recent reports by cytologists who have indicated the significance of the various types of cells. [7,8] In spite of variable statistics, it can be stated that approximately sixty-five per cent of all papillomas produce a nipple discharge of some type, and in seventy per cent of these cases it is sanguinous or serosanguinous. Nipple discharge in the remaining cases is described as watery, whitish, brownish, grey, green or orange. The discharge is usually intermittent and may be associated with a mass which is difficult to palpate. Following hemorrhage into a duct from a papilloma, a mass may appear only to disappear after nipple discharge has emptied the duct. This creates a diagnostic problem, for the duct may have been emptied before examination, the soft papilloma may not be palpable, and it may be impossible to express any secretion until the duct refills. Hart states that change in the size of the tumor associated with bloody discharge is almost pathognomonic of papilloma.

Data from the collected cases show that only nine per cent of all papillomas are malignant. Follow-up studies have shown that only three out of 434 patients with papilloma developed carcinoma in the affected breast, and none of these occurred within four years of the time of excision of the papilloma. This incidence of carcinoma might well be expected in women of this age group, regardless of the previous history of papilloma.

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[*] Read before the meeting of the Clinico-Pathological Society, Washington, D. C., on November 20, 1952.

[†] Department of Pathology, Garfield Memorial Hospital, Washington, D. C.

[††] Secretary, Tumor Registry, Walter Reed Army Hospital, Washington, D. C.

In a study of the material from Garfield Memorial Hospital during the past five years, it was found that 1034 breast operations were performed and twenty-eight per cent of the cases were proved to be carcinoma. During the same period, twenty-nine papillomas were excised, two —or 6.9 per cent—of which were malignant. All of the papillomatous lesions were visible grossly, and they ranged in size from 2 mm. to 4 cm. In five of these there was adequate tissue to establish an association with chronic cystic mastopathy.

In our series, the average age of the women with gross papillomas was 45 years, with a variation from 21 to 78 years. In twenty-two cases a mass was palpable, and in only four instances was the mass peripherally located. There was a history of nipple discharge in thirteen cases, described as bloody in seven cases and orange in one. Pain was a symptom in only two cases.

Treatment consisted of local resection of the involved duct in all except two patients. One of these was a 66-year-old woman, and the entire breast, which was very small, was said to be involved by chronic cystic disease. A simple mastectomy was performed. The other patient had a 10 cm. cyst in the wall of which was a large papilloma. A simple mastectomy was performed in the process of complete removal of the cyst.

Obviously, time has not permitted adequate follow-up, but all of the patients have been followed to the present and there have been no recurrences.

The most reliable method of diagnosis of breast papilloma includes a complete history, repeated examinations of the breast with point pressure about the areola and segmental stretching, which will usually result in the localization of the source of the discharge. In the absence of a palpable tumor, the patient may be instructed to return immediately on the recurrence of the discharge without palpation of any type which might empty the duct before its location can be established. Transillumination is routine for most investigators, but it is not considered helpful by others. Cytological examination of nipple secretion may furnish suggestive evidence but can not be relied upon as a definitive diagnosis, and a confirmatory tissue biopsy is necessary prior to surgery. The introduction of radio-opaque substances into the ducts, as described by Hicken[9] in 1940, may result in acute mastitis and is not recommended for routine use. The frequent disastrous results of frozen section diagnosis in breast papillomas are discussed often in the literature. Competent pathologists admit that the differentiation between benign and malignant papillomas is occasionally extremely difficult even when good paraffin sections are available, and the difficulty is multiplied many times in the attempt to make the distinction on tissue which is friable, fragmented and distorted by freezing. The surgeon should not risk the unwarranted removal of a woman's breast for a benign lesion, and the pathologist should refuse to be party to such a risky procedure as frozen section on papillomas when paraffin sections can be made available for study within twenty-four hours.

There probably is a relationship between papillomas and carcinoma, but it is not possible to determine how many cases of carcinoma originated in a papillomatous lesion. Foote and Stewart found that forty-one per cent of the papillomas in cancerous breasts showed some degree of atypism. Later, Stewart[10] wrote that malignant papillomas are very rare, and most competent pathologists are in agreement. The incidence of malignancy in papillomas varies according to the pathologist, but for the average, well-trained pathologist the figure is low, and when an error is made it is usually on the side of malignancy.

The marked differences in opinion regarding therapy of breast papillomas are largely the results of confusing literature and careless pathology. Until recently, the reported series have been too small to be of statistical significance, and the cases have not been followed adequately. Much of the confusion has been brought about by the failure of authors to distinguish between gross, symptom-producing papillomas and the incidental microscopic papillomas which are an integral part of chronic cystic mastopathy. The conclusions of many authors are, therefore, at least partially based on the results of the treatment of chronic cystic mastopathy and not of papillomas.

The malignancy or benignancy of a given papilloma is a histological determination which is, at times, very difficult. The pathological diagnosis ordinarily determines the extent of the surgical procedure, so is of utmost importance. In the rare difficult case, the pathologist should seek consultation promptly. If there is still no definite decision, the age of the patient should be the most important deciding factor.

Most authorities[4,5,6,11,12] believe that resection of the involved ducts constitutes adequate therapy for breast papilloma. Others[13,14] believe that simple mastectomy is the treatment of choice. The overwhelming consensus, in view of the low percentage of malignancy, is that local excision is the rational method of therapy for breast papillomas, and accurate follow-up provides the justification for this opinion. If the papilloma proves to be malignant after study of paraffin sections, a radical mastectomy should be performed without delay. There are few indications for a simple mastectomy, for this procedure is too radical for a benign lesion and constitutes inadequate therapy for carcinoma.

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THE IDEAL DOCTOR

Why do doctors so often make mistakes? Because they are not sufficiently individual in their diagnoses and treatment. They class a sick man under some given department of their nosology, whereas every invalid is really a special case, a unique example. How is it possible that so coarse a method of sifting should produce judicious therapeutics? Every illness is a factor simple or complex, which is multiplied by a second factor, invariably complex—the individual, that is to say, who is suffering from it, so that the result is a special problem, demanding a special solution, the more so the greater the remoteness of the patient from childhood or from country life. The principal grievance which I have against the doctors is that they neglect the real problem, which is to seize the unity of the individual who claims their care. Their methods of investigation are much too elementary; a doctor who does not read you to the bottom is ignorant of essentials. To me the ideal doctor would be the man endowed with profound knowledge of life and of the soul, intuitively divining any suffering or disorder of whatever kind, and restoring peace by his mere presence. Such a doctor is possible, but the greater number of them lack the higher and inner life, they know nothing of the transcendent laboratories of nature; they seem to me superficial, profane, strangers to divine things, destitute of intuition and sympathy. The model doctor should be at once a genius, a saint, a man of God."

—From "By the Way"—by W. J. S. Jr., in *Detroit Medical News*, November 10, 1952, quoting from an article, "Water Witching—An Interpretation of a Ritual Pattern in a Rural American Community," by Evan Z. Vogt, Ph.D., in *Scientific Monthly*, September, 1952.

Oromaxillary Fistula *

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WHILE OROMAXILLARY fistula may occasionally be due to gunshot or other injuries, to the invasive effects of cysts or neoplasms or to wound break-down following a Caldwell-Luc operation, it most commonly occurs as a complication of dental extraction. This presentation will be limited to oromaxillary fistula resulting from dental extraction.

Otolaryngologists and dental surgeons should all be aware of the close anatomical relationship existing between the floor of the maxillary sinus and the apices of the bicuspid and the molar teeth; but it is surprising how often they fail to realize that antral infection can arise from periapical or periodontal disease. Regarding the pathogenesis of antral infection of dental origin Thoma[1], in his text on oral pathology, cites the work of Zange and Hoepfel who assert that mucous membrane changes in the sinus resulting from dental infection are much more common than is generally believed and that these changes are possible even when the bony wall of the sinus is intact. And in *Diseases of the Mouth*, Mead[2] states that, "Any tooth in the maxilla may be directly infecting the maxillary sinus even though it is not immediately adjacent thereto; as I have found sinus tracts leading from central, lateral, cuspid and other teeth directly into the maxillary sinus."

In the experience of careful and well-trained dental surgeons oromaxillary fistula resulting from trauma alone rarely occurs during tooth extraction. Occasionally dental roots are so involved in the floor of the maxillary antrum that perforation into the sinus is unavoidable on extraction of a tooth with such roots. When periapical or periodontal infection has extended to the mucous membrane of the maxillary sinus and especially when the bony separation between the tooth and the sinus has become diseased, extraction of the involved tooth will often be unavoidably followed by oromaxillary fistula. The foregoing may be tabulated thus: 1) Oromaxillary fistula may follow dental extraction when there is no associated sinus disease. In such a case the accident may be due to careless trauma or it may be entirely unavoidable. 2) Sinus infection of dental origin may result even when the bony separation between the sinus and the teeth is intact. In such a case oromaxillary fistula can sometimes be avoided by careful dental extraction. 3) If the bony separation between the sinus and the teeth becomes involved in sinusitis of dental origin oromaxillary fistula will almost inevitably occur following dental extraction. It may be added that minute oromaxillary fistulae must frequently occur during dental extraction but most of them remain unnoticed and close rapidly.

Oromaxillary fistula has been properly classified by Barton[3] as acute or chronic. This classification is important because management of the acute case may be extremely simple whereas the chronic case always requires some form of operative intervention.

Ideally, the acute case should be seen by the otolaryngologist as soon after the accident as possible in order that an evaluation of the sinus status may be made before local inflammatory reaction incident to the trauma of extraction has taken place; and, if dental surgeons could be induced to do so, all patients presenting problems which might conceivably be complicated by oromaxillary fistula, should be referred for a sinus survey before extraction of upper bicuspid or molar teeth.

Unfortunately the acute oromaxillary fistula is often treated expectantly by the dental surgeon or by probing and curettage or by irrigation via the tooth socket before the otolaryngologist is consulted. By this time an accurate appraisal of the sinus status is difficult.

The tendency of the dental surgeon to procrastinate in these cases has been well stated by Barton[3] who says, ". . . the dentist mistakenly feels that the fistula was the result of an operative error instead of an unavoidable accident, as is frequently the case. For this reason he is often reticent about asking for a consultation. Furthermore, there is a tendency to minimize the involvement of the sinus and to attempt vainly to close the fistula without treating the sinusitis." McQuiston[4] has similar remarks to make concerning the hesitancy of the dental surgeon to request otolaryngological consultation.

Almost all contributors on the subject are agreed that control of existing sinus infection is the sine qua non in the successful management of oromaxillary fistula and so much am I in accord with this viewpoint that I have reached certain conclusions which have provided a reasonably simple, but no inflexible, plan of action, the basis of which revolves around the status of the sinus. The plan of action can be briefly stated and followed by illustrative cases which I hope will offer encouragement if not proof for my views.

1. If it can be established that there has been

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* Presented before the Section on Eye, Ear, Nose and Throat at the eighty-fourth annual meeting of the Mississippi State Medical Association, Jackson, Miss., May 14, 1952.

no preexisting antral disease almost all oromaxillary fistulae following dental extraction will close spontaneously with no treatment of any sort, providing there has been no injudicious instrumentation such as curettage or lavage via the tooth socket.

2. If there has been no preexisting sinus disease, many oromaxillary fistulae will close spontaneously without sinus treatment even after injudicious dental management or after accidental contamination of the sinus cavity.

3. If it can be established that sinus infection is present at the time an oromaxillary fistula is created; and especially if the history and findings indicate that the sinus infection has been present prior to extraction of the tooth, a nasoantral opening followed by repair of the fistula will usually be sufficient to correct the trouble. It may be contended that with the use of antibiotics and simple antral lavage a cure will be effected in mild cases. This is very possible but I have seen no such cures and I hesitate to recommend this sort of conservatism.

4. If there is good evidence that sinus infection of long standing has been present prior to extraction a Caldwell-Luc operation, followed by repair of the fistula will usually insure a successful outcome.

5. Chronic oromaxillary fistula, for practical purposes, is always associated with chronic maxillary sinusitis and is best managed by a Caldwell-Luc procedure, followed by closure of the fistula.

6. In the management of the acute or the chronic case it is necessary to correct not only any co-existing sinus disease but to correct also any co-existing dentoalveolar disease in the neighborhood of the fistula.

Certain general principles are applicable to all cases. The tooth socket should not be probed or curetted nor used as an avenue for antral irrigations. The patient should be instructed to avoid blowing his nose. Cauterizing agents are best avoided as a means of treatment in either the acute or the chronic case. Antibiotics are probably of value but they are of minor importance and they should never be given precedence over the sound surgical principle of adequate surgical drainage. If intranasal antrostomy or a Caldwell-Luc procedure has been done I prefer to irrigate the sinus no more frequently than seems necessary, sometimes not at all. Hill[5] favors aspiration rather than irrigation but if there is a minimal amount of secretion it is my belief that one irrigation and nothing more will be sufficient.

Despite the numerous methods proposed for closure of the fistula the precise technic is the least important aspect of the problem. If associated sinusitis is controlled it seems to me that any method of closure which provides approximation of the freshened edges of the fistula with sufficient relaxation of the flaps will usually succeed. Apparently Welty[6] was the first to recommend a sound technic for closure of oromaxillary fistulae and it has remained the basis of all commonly employed methods to this date. In essence the technic is one of simple sliding flaps. Hill[7] advocates a hinged flap which provides a raw surface for the sliding flaps to rest upon. If there is sufficient alveolar mucous membrane available for this purpose it is a safety measure well worth considering. Hersh[8] has described a method of closure which is useful in unusually large fistulae. Proctor[9], in 1946, proposed the unique scheme of using a cut-to-fit plug of rib cartilage as a means of sealing the fistula. This was introduced as "a preliminary report". Since there has been no subsequent publication on this method it would seem that it has not fulfilled its expectations. Robison[10] recommends a pressure splint which is believed to aid in insuring closure in stubborn chronic cases.

From a series of twenty-one cases the following have been selected as the most illustrative. It is a little surprising that only one of these cases was a chronic fistula.

CASE 1. A young adult female had the left upper second bicuspid extracted. This was followed by bleeding from the nose and the appearance of air bubbles in the tooth socket. The patient was seen fifteen minutes after the accident. There was no history of previous or concomitant sinus infection. On examination of the nose a slight trace of blood was seen in the left middle meatus. Transillumination showed both antra to be clear. X-ray examination was negative for evidence of sinus infection. The tooth socket was left strictly alone. Nose drops were prescribed to satisfy the demands of the patient but no other treatment was employed. Healing was rapid and uneventful.

COMMENT: When the patient is seen immediately following the creation of a fistula transillumination is usually of value; if post-extraction inflammation has occurred transillumination will be inconclusive. X-ray examination is desirable in all cases but in some instances it has been omitted for economic reasons. When there is no history of sinusitis and no evidence of infection is found on physical examination most fistulae will heal spontaneously.

CASE 2. A young adult male was referred from a town 25 miles distant. The deferring dentist called by telephone to say that a root fragment of the second left upper bicuspid had been driven into the antrum. There was no history of sinus disease. Transillumination was clear. On inspection of the tooth socket a large, clean, oval fistula about 1.5x1 cm. was found. The patient was asked to incline his head to the left and when he did so an object was seen to roll into the fistula very much in the manner of a ball seating itself in a hole of the familiar pin-ball machine. The patient was asked not to move his head. A thin ring curette was gently passed beside and over the object. With only slight downward traction it was easily brought out into the mouth. It proved to be a substantial portion of the tooth and root. There was no discomfort during or following the removal of the tooth fragment. The patient was instructed to return to the referring dentist for observation and a course of antibiotics. He returned to the dentist ten days later with the fistula closed and the socket healing rapidly. He has remained well.

COMMENT. This method of removing a tooth fragment from the sinus is not advisable in most cases; it is usually necessary to remove such foreign bodies by means of the Caldwell-Luc approach. In this case the fistula was so large and clean and the tooth fragment so inviting to an attempt at simple extraction that the temptation could not be resisted. This case is presented primarily to demonstrate that even when a sinus is known to be contaminated a fistula will heal spontaneously with no treatment if there is no associated sinus disease. Removal of the foreign body was the only treatment employed in this case.

CASE 3. An elderly female was referred by a dentist who had extracted the upper left first bicuspid and first molar teeth. An oromaxillary fistula followed removal of the bicuspid tooth. The dentist irrigated the sinus via the fistula and reported that foul pus was present in the washing. The patient was seen about an hour after these procedures. She had been treated by me two months previously for an acute right suppurative maxillary sinusitis. At this time the left antrum was clear on transillumination. The suppurative process on the right side resolved after three irrigations. Because the upper molar and bicuspid teeth on the left side were badly diseased the patient was advised to consult her dentist. When she was examined on arrival from the dentist's office—an hour after the creation of the fistula—no pus was seen on either side of the nose. Transillumination was dark on the left side and clear on the right. This was the reverse of the picture on transillumination two months previously. X-ray examination showed a cloudy left antrum. In view of these findings together with the dentist's report that foul pus was present on irrigation of the sinus an intranasal antrostomy with repair of the fistula was proposed. This was done about three hours after the accident. The postoperative course was very satisfactory. The antrum was irrigated twice postoperatively. At the first washing a few shreds of mucus were found; the second washing was clear. The patient was discharged cured in three weeks.

COMMENT. This patient may have been treated more conservatively by simple antral lavage without antrostomy but it has been my experience that when an oromaxillary fistula is complicated by foul-smelling purulent maxillary sinusitis, the least that can be done to insure a successful outcome is an intranasal antrostomy followed by repair of the fistula.

CASE 4. A young adult male presented a typical complaint of acute left maxillary sinusitis of five days' duration. Purulent secretion was present in the left middle meatus. The left antrum was dark on transillumination. The antrum was irrigated. Foul granular pus was evacuated. The patient was referred for dental examination. The left first molar showed definite evidence of apical disease. Three days later the sinus was again irrigated. Foul pus was again evacuated. The patient consented to dental extraction and such sinus surgery as would be deemed necessary. He had been advised that an oromaxillary fistula could be expected. Extraction of the tooth resulted in a fistula. Because of the severity of the sinusitis a Caldwell-Luc procedure was thought advisable and the sinus was opened via the canine fossa. After much thick pus had been aspirated the mucous membrane of the sinus was inspected. As it appeared to be reasonably healthy it was left undisturbed and a large nasoantral opening was made by working from within the sinus. The fistula was then closed by means of sliding flaps. Healing was rapid and complete.

COMMENT. In this case symptoms of acute sinusitis of only five days' duration had been present but it was thought that insidious chronic disease might have antedated the acute manifestations; and had the mucous membrane shown thickening at operation it would have been radically removed. This is the only time I have ever performed a simple antrostomy by means of the canine fossa approach but the method appeals to me as feasible in doubtful cases.

CASE 5. A young adult female was referred by a dentist who had extracted the right upper second bicuspid. An oromaxillary fistula followed the extraction. There was a history of maxillary pain for six to eight days prior to extraction. The right antrum was dark on transillumination. The septum was so markedly deflected to the right that it was difficult to pass a 14-gauge needle to the nasoantral wall. On irrigation granular, greenish, foul-smelling pus was evacuated. In addition to a nasonatral window and closure of the fistula, a submucous resection was recommended as a means of enhancing the chances of success. These three procedures were performed two days later. Four days postoperatively the sutures pulled through and on irrigation of the sinus with a penicillin solution fluid escaped from the site of the fistula. There was no pus in the sinus. On the following day the sinus was again irrigated. No pus was present in the washing and no solution escaped from the site of the fistula. Bleeding occurred at the site of the nasoantral window on the succeeding day. This was controlled with oxidized cellulose gauze. Following this episode healing progressed rapidly and the fistula was completely closed on the fourteenth day after operation. The patient was seen again six weeks later. She said that about two weeks before this visit a small bone sequestrum was extruded from the alveolus. There was no evidence of sinusitis or fistula.

COMMENT. The complication of septal deflection is of no particular interest in this case. It may be said in passing, however, that any such impediment to proper drainage should be corrected in order to insure as far as possible a successful outcome. This case is presented to illustrate the point that in spite of an unsuccessful coaptation of the edges of an acute fistula spontaneous healing will occur even when infection of the sinus is present if proper drainage by means of antrostomy is provided.

CASE 6. A middle-aged medical officer complained of pain in the left maxillary area and left-sided nasal discharge with a foul odor and a bitter taste. These symptoms had been present for more than six months. The patient knew that the upper left second bicuspid was diseased but while he was still in civilian life he and his dentist had not been inclined to have the tooth extracted for fear that an oromaxillary fistula would result! The left antrum was dark on transillumination. X-ray examination showed a dense antral shadow on the left side. Irrigation produced a large quantity of foul, greenish pus. Dental consultation was requested. Extraction of the diseased bicuspid and a Caldwell-Luc operation were advised and it was agreed that should an oromaxillary fistula result from the extraction, it would be repaired at the time of the Caldwell-Luc operation. On extraction of the tooth a fistula was created and operation on the sinus was performed two days later. A very much thickened and diseased sinus mucosa was found and the standard Caldwell-Luc technic was carried out. Reference was made to the dental surgeon in the matter of closure of the fistula and he assumed the management of that phase of the problem. My only comment during the closure of the fistula—which was done quite expertly—was that the teeth contiguous to the fistula and the gums surrounding them appeared unhealthy. The dental officer decided against extraction of these teeth. Five days later the sutures closing the fistula separated and the fistula returned. A week following this incident the fistula was again closed. Again the sutures separated and the fistula returned. At about this time my organization was alerted for overseas service. The patient was asked to consult a plastic surgeon if this could be arranged. In due course of time this was arranged. The first move on the part of the plastic surgeon was to request extraction of the two teeth anterior to and the tooth immediately posterior to the fistula. These teeth were removed. Two weeks later the fistula was repaired. Quick healing resulted and there has been no further trouble.

COMMENT. The mistake in the early management of this case was the attempt to repair the fistula without first correcting existing dentoalveolar disease in the region of the fistula. It is my belief that had this been done cure would have resulted on the initial attempt at closure.

CASE 7. A middle-aged robust male was referred by a dentist who had extracted the left upper first molar tooth 24 hours previously. The dentist stated that free pus flowed from the tooth socket but no probing or curettage was attempted. There was considerable swelling over the left maxilla. X-ray examination showed a cloudy left antrum. The temperature was 102°. Penicillin was administered and the sinus was irrigated with the evacuation of clumps of foul, cheesy debris. A Caldwell-Luc operation was performed six days later. When the periosteal elevation was begun it was discovered that there was extensive caries of the lower part of the canine fossa and the adjoining portion of the alveolus as far as the palatal process. A huge antrum filled with foul, caseous, semisolid material was exposed. Thick, leathery mucosa was peeled out. The fistula was excised and large flaps were undermined to insure closure without tension. The fistula was so large that it was possible to place the entire thumb in the defect with ease. Five days later the sutures were removed and it was thought that complete healing would ensue. Three days later there was a breakdown of the wound. The patient was asked to consult his dentist for a reevaluation of the state of the remaining teeth of the left maxilla. Two moderately suspicious teeth were extracted. Six weeks later the fistula was again excised. Long incisions were made in the palatal and gingival mucosa and an additional incision above the gingival incision was made in an effort to produce sliding flaps which could be approximated without tension. Four days later the suture line separated. The patient was asked if he would consent to consultation with a plastic surgeon. He said he would think about the matter but during the 14 months which have elapsed since this request was made he has apparently not thought favorably about it. He feels very well and insists that the fistula, which is actually a large, wide, flat opening, causes him no inconvenience.

COMMENT. This is the only acute fistula in the series which has been a failure. Although infection in this case was adequately controlled the extreme size of the defect militated against successful closure. It is probable that more expert surgical technic would have resulted in a cure and I regret that consultation with a plastic surgeon has not been obtained.

CASE 9. An aged male was referred by a dentist who had extracted the upper left first molar tooth 10 months previously. An oromaxillary fistula followed the extraction. Since the extraction there had been an occasional discharge of fetid pus from the fistula. The left antrum was dark on transillumination. A Caldwell-Luc operation was performed. The antral mucosa was a mass of necrotic, polypoid tissue. Following the Caldwell-Luc procedures the edges of the fistula were freshened and closure was effected by means of sliding flaps. Healing was prompt and complete.

COMMENT. This is the only chronic fistula in this series. I have seen a number of similar cases but I have not managed these personally. Those which have been managed according to the principles followed in this case have, in general, been successfully closed; those which have been treated by means of prolonged lavage, escharotics or bizarre methods of one kind or another have generally failed to heal.

SUMMARY AND CONCLUSIONS. The successful management of oromaxillary fistulae following dental extraction depends largely upon the correction of existing sinusitis and neighboring dentoalveolar disease. If no existing sinus or dentoalveolar disease is present at the time an oromaxillary fistula is formed, spontaneous healing will usually occur without treatment of any sort.

A group of cases has been presented in an effort to illustrate the various problems arising in cases of oromaxillary fistula.

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DISCUSSION

Dr. Lemann Bounds (Meridian) — At the risk of being repetitious I shall discuss a case of chronic oroantral fistula it was my misfortune to deal with. This occurred in a nineteen-year-old female who had had an upper right first or second molar removed three months previously. Her dentist used packs in the fistula continuously for the first month after dental surgery. Before I attempted any closure I had roentgenograms made, including a lipoidal filling of the right antra. Very little thickening of the sinus mucosa was present. My operative procedure, done under local anaesthesia, consisted of curettement of the sinus tract, then the swinging of flaps to cover the fistula. Frankly there was a little too much tension at the suture line, which was to the buccal side of the fistula. Everything went along nicely and the sutures were removed on the sixth day. By the fourteenth day the fistula had reoccurred.

Her family took her to a dental surgeon in Montgomery, Alabama, four months later and he found evidence of old dento alveolar disease. He eradicated this, then swung flaps to cover the fistula. These flaps were under much more tension than those of mine—they did not even come into apposition. Still within a four-week period the oroantral fistula had completely sealed.

This case points out the necessity of looking for dento alveolar disease as well as antral disease. X-rays of the alveolar ridge as well as the antrum should be made preoperatively and assessed by the dentist, if necessary. Eradication of this dental disease is just as important as proper care of the maxillary antrum.

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The Medical Management of Tuberculosis

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Bed rest is the first rational method of tuberculosis therapy, and is still the most important procedure. No other form of therapy is effective without bedrest. Many instances, especially minimal, active exudative lesions, require only bed rest. All other procedures depend upon proper bedrest prior to, during, and after their application.

Present Status of Streptomycin in Therapy of Pulmonary TB

Since the announcement in January, 1944 of the discovery of streptomycin by Waxman, et al., there have been intensive and widespread studies made by countless individuals and groups all over the world, in an attempt to find specifically just what its effectiveness is, and to define definite indications and contraindications for its use in tuberculosis. This short discussion will be limited to a brief summary of the present consensus of opinion as to its value in pulmonary tuberculosis.

I. Relation to histopathic process.

A. Acute exudative lesions. It is in these lesions that streptomycin and PAS are most effective, and should be used promptly and in the proper manner.

B. Chronic productive (so-called). Here again streptomycin and PAS exert a remarkable regressive influence and should be used without hesitation. We have seen some astounding results of this type.

C. Fibro caseous or fibro-cavernous. In this type of disease streptomycin and/or PAS can be expected to do little other than aid the clearing of concomitant exudative disease. The caseation and cavitation must be treated by mechanical collapse therapy. Injudicial use of streptomycin in these patients will only produce drug-resistant organisms and thereby destroy its future usefulness if and when needed.

II. Toxicity. In the experimental era of streptomycin therapy, large doses, 2 - 3 gm. daily, were given either in five divided doses or one injection. It was soon seen that toxic manifestations could be serious, the principal ones being: 1) vestibular, 2) acoustic nerve damage, 3) nephritic syndrome, and 4) allergic dermatitis.

The National Tuberculosis Association sponsored a widespread investigation of the use of streptomycin, etc., among such organizations as the American Trudo Society, the Army, Navy, Marine.

and Veterans Hospitals. Differing drug companies, and various sanatoria, each made annual reports on their findings regarding the optimal use of streptomycin and PAS with particular regard to 1) size of dose, 2) dosage schedule, 3) combination of dosage, and 4) type of lesions and found that:

1) The dose could be reduced to 1 gm. in one or two injections.
2) It may be given every third day and
3) In conjunction with PAS in daily doses of 12 gm., the following results obtained: a) fully as effective as larger doses, b) reduced toxic symptoms to almost zero, and c) drug-resistant organisms almost never developed when the total regimen extended not over 120 days, or a total of 40 grams of streptomycin.

We can therefore lay down some rather concise statements regarding the use of streptomycin in the therapy of pulmonary tuberculosis, namely

1. Streptomycin and PAS should be used in combination
2. The most effective dosage schedule is, 1 gm. given q. third day for a period of 120 days and in combination with PAS in daily doses of 12 gm.
3. Streptomycin is most effective in,
   a) acute exudative lesions
   b) socalled chronic productive lesions

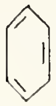
Streptomycin is of little or no benefit in fibrocaseous (fibro-cavernous) disease and its use in these cases may lead to drug resistant organisms. Having set forth these specific conclusions regarding the use of streptomycin, we may now proceed to a few generalizations.

I. The use of these tuberculostatic agents need no longer be restricted because of scarcity, cost, or toxicity, and since they can be used in amounts and dosage schedule which preclude the development of drug-resistant organisms, we should no longer deny their use to patients because of some possible future development that may demand their use. It must be emphasized, however, that this is no plea for their injudicial use at any time. It seems proper, therefore, that restrictions on the use of streptomycin, et al., be relaxed and that such things as possible future surgery, should no longer be considered an unalterable contraindicative to its use when the lesions present could be benefited by its prompt and proper ultilization.

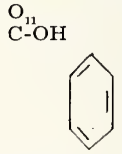
II. Streptomycin is bacteriostatic and not bacteriocidal and therefore should never be used as the only method of treatment but always as a supplement to conventional forms of therapy. It is only in this sense that it can achieve its full measure of efficacy. Since it is only bacteriostatic, it necessarily follows that it is useless in instances where TB bacilli are not multiplying in the body. When tubercular lesions have become inactive whether through resorption, encapsulation, or fibrosis, tuberculostatic agents are superfluous. Prophylactic injections of streptomycin before infection have no effect on later development of the disease in guinea pigs.

III. In old chronic cases not amenable to surgery for various reasons streptomycin and PAS may be beneficial in relieving acute symptoms, at least relieving a hopeless case of severe respiratory symptoms.

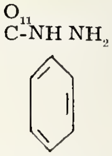
ISONICOTINIC ACID HYDRAZIDE



C_5H_5N
Pyridine



$C_6H_5NO_2$
Isonicotinic Acid



$C_6H_7N_3O$
Isonicotinic Acid Hydrazid

Pharmacology: Oral dose rapidly absorbed. Maximum blood level reached in 2 hrs. Excreted rapidly via kidneys. Gone in 12 hrs. High concentration found in spinal fluid

Toxicity: Acute toxicity with high dose manifested by:

1) excitement, 2) salivation, 3) vomiting, 4) prostration, 5) convulsions, 6) cardiac irregularities, and 7) respiratory arrest occurring before cardiac arrest.

Sub-acute toxicity: 1) reduced food intake, 2) weight loss, 3) anemia, 4) toxic and clinic convulsions, and 5) slight hepatic damage.

Cessation of drug in sub-acute and chronic toxic animals results in complete recovery with no permanent damage.

Toxic Symptoms of Therapeutic Dose in Man: 1) dizziness, 2) dryness of mouth, 3) constipation, 4) bladder sphincter tightness. Pre-existing kidney disease necessitates smaller dose due to impairment of excretion which is normally rapid.

Therapeutic affects: 1) In Vitro. Tremendously higher efficiency against TB organisms than streptomycin and PAS.

2) Investigation in Human TB: Too early to draw definite conclusions. It is effective against streptomycin resistant organisms. Organisms will develop resistance to INAH.

Clinical effects: 1) diminished fever, 2) increased appetite, 3) gain in weight and strength, 4) sputum often negative, 5) reduced cough and expectoration, 6) x-ray improved.

CAUTION IN THE CHEMOTHERAPY OF TUBERCULOSIS

J.A.M.A. – July 26, 1952

There is much concern that the potential value of the INAH drugs may be neutralized if they are used improperly or indiscriminately by those not trained in the treatment of tuberculosis because:

1. Physicians use these drugs as the sole form of therapy.
2. TB organisms can rapidly develop resistance to these drugs. This is especially true in cavitary disease. Strains (mutants) have been produced that are resistant and never having been exposed to the drug. Therefore people may be infected with these organisms that are already resistant to these drugs.
3. Improper and inadequate doses may be used.

SUGGESTED USAGE: Groce and Associates suggest that these drugs be employed only in multiple combinations with streptomycin and PAS.

Exposure of tubercular organisms simultaneously to streptomycin and PAS and INAH have developed no instances of drug-resistant organisms. This does not hold true when they are given consecutively.

COLLAPSE THERAPY. Minor pneumothorax is an old procedure of proved value in the therapy of pulmonary tuberculosis, however, pneumoperitoneum (a relatively new procedure) is rapidly replacing it as a collapse procedure. Pneumoperitoneum derives its effectiveness not so much from actual collapse of the diseased lung as it does from the limitation of motion of the lung through immobilization of the diaphragm. We have found that it is equally as effective in closing cavities in the lower lobes and mid-lung fields. The complications of pneumoperitoneum are of a minor nature and much less frequently encountered than the complications of pneumothorax. Consequently at the Mississippi State Sanatorium there has been a marked trend toward the replacement of pneumothorax by pneumoperitoneum.

Pneumoperitoneum offers: 1) therapy for bilateral disease, 2) fewer complications, and 3) equal and sometimes superior effectiveness.

Comparison of Figures:
1948
Pneumothorax 6890 Pneumoperitoneum 633
Ratio 10 to 1
1951
Pneumothorax 3452 Pneumoperitoneum 7712
Ratio 1 to 2.2
1952
Pneumothorax 958 Pneumoperitoneum 4667
Ratio 1 to 4.8

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MEDICAL THINKING

The following two paragraphs by Dr. Edward T. Wentworth, M.D., of Rochester, N. Y., are enclosed because of the excellent manner in which the topic of "Medical Thinking" was expressed: Somewhere between the inspiration inherent in the supremacy and dignity of the individual and the imperious ideal which demands that he should put everything he has into the welfare of the group lies a normal and peaceful line of conduct, both for the individual and the group. We think of it as Democracy. Surely it is within the intellectual capacity of man to chart that course; but he does not want to chart it. He gets too much satisfaction out of his prejudices. Consequently we, the people, are in a state of flux, undergoing vast waves of advance and retreat at the battle line drawn between democracy and communism. We are enmeshed in a great battle between the idea that the individual is supreme and the idea that the individual is unimportant and that the common welfare of communities of individuals is supreme. This is a battle line between the idea that the initiative and contribution of the individual to social progress is all-important and worthy of reward and the idea that there is so little difference in individual contributions of capability and effort that equal rewards come closer to justice than varying rewards based upon individual initiative—a battle line between the idea that minimal governmental interference with production and distribution brings about the best economy and the idea that planned economy has every advantage.

We of the health professions are on the side of the importance of the individual. Even when we dictate that a malefactor must suffer in the interests of society, it is really the interests of individuals in society, not society as an entity, that we have in mind. Our life work is that of improving the welfare of the individual. To that end we could struggle along under the burden of a little more sound thinking in our social relationship.

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MISSISSIPPI STATE MEDICAL ASSOCIATION

Eighty-fifth Annual Meeting
Biloxi — May 12, 13, 14, 1953
House of Delegates Meets May 11, 1953

Otitis Media with Effusion*

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Oxford, Miss.

Otitis media with effusion can be a difficult condition to treat. It is quite a challenge to otolaryngologists. Most cases can be cleared with a few treatments, but many persist in spite of everything which can be done.

I became particularly interested in this condition four years ago and although my series of cases is not large, the gratitude of the individual patients has been great. Two of my patients were ladies past middle life who were already deaf in one ear and suddenly developed poor hearing in the good ear. Naturally, they were very happy to have the hearing in the one good ear improved by treatment. I should like to review brifely some of the outstanding features of this disease and pass along some of the points which have been given me by those who are seeing a large number of cases.

ETIOLOGY— In general, it may be said that anything which will contribute to swelling and closure of the Eustachian tube can be a contributory cause. The most common cause is probably an acute inflammation with swelling of the nasopharyngeal tissue. Hypertrophic adenoid tissue often causes the difficulty in children. Tumors, whether benign or malignant, may give rise to it. Dental malocclusion is often a cause, although frequently overlooked. Robison has advanced the idea the fluid forms in the middle ear due to blockage in the lymphatic glands which drain the middle ear region. However, a blocked Eustachian tube is not the final answer by any means, or else every blocked tube would be accompanied by fluid in the middle ear. Goodyear feels that many cases in children have some infection of the antra or ethmoids.

Allergy plays a very important role. It has been stated that as high as 70 per cent are allergic in etiology, but many contend that such is not the case since eosinophiles are not frequently found in the fluid. Endocrine disorders, not excluding pregnancy, are potential causes of trouble. Cardio-vascular-renal disease may be a potent factor. Hilger has written regarding the activity of the autonomic nervous system. There has been some increase of the condition in children who have received biochemical treatment for a purulent otitis where the pus cells have disappeared and the fluid looks like it never has undergone suppuration. Fluid occasionally occurs after trauma of aerotitis.

Changes in climate, whether humid or dry, and changes in altitude, whether sea-level or higher, and acute upper respiratory conditions have been definitely identified with the disease. It is true that more patients are seen during the winter months, but many of them have had no previous upper respiratory infection.

PATHOLOGY — Two types of fluid may fill the middle ear. One is a thin serous fluid which is a transudate. The other is of a mucous type and is an exudate. It has been stated that the prognosis is poorer with the more mucoid type of fluid. The amount present is variable. Some will change from serous to mucous in character, but usually once the character of the fluid has been established, it remains that way.

SYMPTOMS — All cases present a history of hearing loss, in one or both ears. Some will say that the ears have a completely blocked feeling. There is a sensation of bubbles or fluid moving in the ear, especially if the head is moved forward or sideways or when the nose is blown. There is tinnitus, autophony and some sensation of numbness or deadness over the entire side of the head. One pathognomonic sign is the clearing of the impaired hearing when the head is turned forward or sideways, only to have the impairment recur when a normal head position is resumed. It is probable that the fluid overlying the round window causes the impairment.

DIAGNOSIS — In many instances the diagnosis can be made from the history given by the patient. Inspection of the drum reveals it to be normal in appearance in many cases. Often one can see a fluid level or bubbles behind the drum. The lower part of the drum has an amber color and the upper part frequently has a bluish color. In many cases the middle ear is entirely filled with fluid and the level or bubbles will not be seen. Hoople states that the full tympanum, and the full mastoid as well, are ten times as common as an ear partly filled with fluid. These are the cases which are frequently missed. In cases of long standing, the short process and the handle of the malleus will be chalky white and stand out vividly against the discolored background. This often gives one the idea of some retraction of the drum when actually there is none.

Auscultation is often of help in making the diagnosis. It is not too necessary in those cases where the amber drum is seen, but in many cases the fluid is present behind a thickened and opaque drum and in such a case auscultation can aid one to reach the proper diagnosis. The sounds which are heard are quite varied. Catheterization should be done very gently so that the examiner does not miss the sounds. One should always pay particular attention to the first sound because in many cases the sounds change after the initial puff of air through the tube.

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* Presented before the Section on Eye, Ear, Nose and Throat at the eighty-fourth annual meeting of the Mississippi State Medical Association.

Diagnostic paracentesis is often necessary to reach the final diagnosis. This is carried out in the same manner as therapeutic paracentesis, which will be described later.

The type of hearing loss is not characteristic by any means. Many cases develop effusion superimposed upon a pre-existing deafness, which may be perceptive in character. In many cases there is already much inner ear damage. In many cases the degree of hearing loss is quite out of proportion to the amount of demonstrable pathology. Often, in those cases where the fluid is not too abundant, the loss will not be too great because the fluid has settled to the bottom of the tympanum, but this is not common.

PROGNOSIS — It is generally felt that those ears with the greater amount of mucous content will cause more trouble than others. The greater the amount of fluid present, regardless of the type, the more difficult is the case to clear up. In those cases where the fluid has been present for a short time, the prospects of a good result are much better than when it has persisted for a long time.

TREATMENT — Treatment in the past has been on the conservative side and this has been detrimental to the patient. In years past almost every type of therapy except paracentesis was advised. Nowadays most men do paracentesis early and often. There is relatively little discomfort in this procedure, as compared with myringotomy for other types of otitis media, since there is little inflammation of the drum. In many cases no anesthesia is required. Of course, one may encounter an unusually apprehensive patient where an anesthetic has to be used or he may have to use an anesthetic in a child. But this is not the usual case. The incision is usually made in the posterior inferior quadrant just away from the annulus. The pain fibers are at the periphery of the drum and along the long process of the malleus. Eagle states that there is usually some maceration of the lateral wall of the canal near the drum and one must take care not to touch this area in order to keep the patient from moving. The fluid in the middle ear is so thick that it will not exude through the opening in the drum in many cases and must be aspirated with a small tip. Occasionally one must make a counter puncture to permit some air to enter the middle ear cavity so that the fluid can be removed. The hearing is usually improved at once and the patient is frequently relieved of his tinnitus. The incision is small and will usually heal quickly. In some cases where the fluid is very thick, one may desire to purposely make the opening large so that it will remain open for a time. It is better to have a small perforation with a dry ear than to have a marked hearing loss in these cases.

There are many operators who do not catheterize the tube following myringotomy, but it has been my experience that such a procedure greatly improves removal of the fluid. I do not hesitate to do this one or more times during one sitting if I feel that it will aid in the removal of the fluid and help clear the case more quickly.

Many cases will be cleared after one paracentesis, but there are some cases which require repeated treatment. In some cases this must be done a number of times in order to secure a satisfactory result. This should not cause hesitation on the part of the operator.

In a rare case, a mastoidectomy must be performed. In such a case it is wise to leave a tube in place for as long as it takes to get the middle ear dry and the operator should be certain that it is dry and remains dry before removing the drain. Fortunately, this is rare.

One must not forget to treat the case generally. Any type of contributing cause must be isolated and treated if one is to get a good result in any given case. In the early stage, treatment must be directed toward the infection, which has given rise to the effusion. After this has been cleared, other measures must also be used. Hypertrophic adenoid tissue or secondary growth of adenoid tissue should be removed. In some cases radium will be of value in removing some of the congestion about the tubal orifice. Dental malocclusion should be corrected and in many instances gives pleasing results. Allergic tendencies must be investigated and corrected. In children especially, one must clear the sinusitis, irrigating under general anesthesia is necessary. Endocrine disorders should also be investigated and taken care of.

Of the cases I have seen within the past four years, I have four which I should like to present. The return of hearing in some was not too dramatic, but the relief afforded was great and they have been very grateful.

Case I — A fourteen-year-old white girl was first seen on September 18, 1951 stating that she had experienced tinnitus in the left ear as long as she could remember. She had noticed a dull feeling in both ears for several months before I saw her. Examination revealed the typical amber color of the lower half of each drum. There was about a 20 decibel hearing loss in each ear, with a greater drop in the left ear for the higher frequencies. A bilateral paracentesis was performed. The fluid in the right ear was serous but that in the left ear was very viscid and difficult to remove. However, I was finally able to remove it and she felt much better. One month later her hearing was virtually normal and her tinnitus removed. She is now a very happy young lady.

Case II — A sixty-five-year-old white housewife was seen on August 12, 1950, with a history of marked hearing loss in the left ear for many years. The hearing in the right ear had been poor for several weeks prior to the time I saw her. Both canals were normal in appearance and so was the left drum. The right drum had a characteristic appearance and a fluid level could be seen in the middle ear. She had a 65 decibel loss for air in the right ear and an 80 decibel loss in the left ear. A paracentesis was performed and much mucous fluid removed. An audiogram was made immediately after the paracentesis and showed the loss in the right ear to be only 40 decibels for air. She returned to the office on September 19, 1950, at which time the hearing loss was still at the 40 decibel level. She has had no further difficulty.

Case III — A fifty-eight-year-old white housewife who had virtually no hearing in her right ear and was miserable because she had lost much usable hearing in the left ear. She was first seen on January 15, 1952, with an audiogram showing a loss of approximately 60 decibels in the left ear for air. A paracentesis was performed with the removal of much mucoid fluid. Her audiogram following the paracentesis did not show a great improvement in the hearing, but she was able to hear a conversational voice with ease. Her hearing on January 24, 1952 was about 10 decibels better than on January 15, 1952. She was very happy over being able to hear much better, and so was her husband, who said that he had become quite hoarse shouting to her at home.

Case IV — A fifty-eight-year-old white public official who was seen over a long period of time before he could decide to have a paracentesis done. Finally, on January 19, 1949 he submitted to the procedure in the right ear. There was a considerable improvement in his hearing.

SUMMARY — 1. Otitis media with effusion is a condition which is often difficult to treat.

2. It may be caused by acute inflammation of the nasopharynx, hypertrophic or recurrent adenoid tissue, tumors of the nasopharynx, dental malocclusion, allergy, endocrine disorders or cardio-vascular-renal disease. In children, infection of the maxillary or ethmoid sinuses causes chronicity.

3. Diagnosis is made on findings of hearing loss plus the appearance of an amber colored tympanic membrane with the presence of bubbles or a fluid level in the middle ear. However, in many cases the tympanum is completely filled with fluid.

4. The prognosis is poorer with very mucoid fluid.

5. Treatment consists of paracentesis early with correction of contributing cause.

6. Four cases are submitted for study.

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Treatment of Disturbances of Cardiac Rate and Rhythm [*]

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A DISORDER OF the heartbeat is usually one of the first abnormalities to come to the physician's attention in the examination of a patient. It is also one of the common chief complaints that bring the patient to the physician.

In the past several years, due to publicity given to heart disease in all types of lay literature, the public has become very heart-conscious, and almost every patient has the knowledge that heart disease is the number one cause of death. Almost every day we are confronted with front page news of some local citizen who has expired of a sudden heart attack.

Therefore, it is not abnormal for our patients to notice any alternation of their cardiac rate or rhythm, and to become very anxious as to its significance.

The treatment of all disturbances of cardiac rate and rhythms will not be included in this discussion, but some of the more common disorders will be discussed.

1. SINUS TACHYCARDIA, OR SIMPLE TACHYCARDIA

Sinus tachycardia is a sustained increase in the heart rate beyond the normal limits for the individual. The disturbance is due to a dominance of the normal accelerator mechanism. It is one of the many manifestations of autonomic imbalance, and may have no pathologic connotation.

There is no effective treatment which can be applied directly to sinus tachycardia. The constitutional form which is present through the lifetime of a patient is harmless and requires no treatment other than assurance, and the same holds for sinus tachycardia due to emotional or nervous cases. Normal activity and exercise should be encouraged rather than discouraged. Children and adolescents should not be told that they have a "bad heart", nor forbidden to indulge in strenuous exercise or athletics.

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[*] Read by Dr. W. H. Cleveland at the March 8, 1949, meeting of the Northeast Mississippi Medical Society at Corinth, Miss.

Sinus tachycardia may be caused by excess or sensitivity of tobacco, tea, coffee, alcohol, and various drugs such as thyroid, belladonna, atropine, benzadrine and their allies. Tachycardia will usually disappear when these are discontinued, although it may take several weeks to disappear.

It should be borne in mind that tachycardia may be caused by thyrotoxicosis, anemia, most infections except typhoid fever, in hemorrhage, cardiac failure; and a thorough search should be made to exclude and treat these factors.

The patient with sinus tachycardia should not be digitalized unless there is evidence of heart failure. This drug does not slow the heart rate, but will seriously interfere with cardiac output.

2. SINUS BRADYCARDIA

Sinus bradycardia represents the converse of sinus tachycardia in that in this condition there is excessive slowing of pulse rate, but no significant change in electrocardiogram. This phenomenon is another manifestation of autonomic nervous system imbalance.

We have no direct treatment for sinus bradycardia. The constitutional form requires no other treatment than assurance. The forms that are associated with certain infections — jaundice, starvation, hypo-thyroidism, increased intracranial pressure, or various drugs such as digitalis—will disappear when the causative factor is removed.

As in the instance of sinus tachycardia, alarmists may precipitate the patient into an anxiety neurosis by stating that the heart is weak, and by rejection for insurance or employment.

3. PAROXYSMAL TACHYCARDIA

In this condition, there is a regular rhythm of heart rate usually of 120 to 320 per minute, averaging 160, with sudden onset. The abrupt termination of an attack of paroxysmal tachycardia by simple manual manipulation is one of the most dramatic therapeutic procedures in medicine.

Paroxysmal tachycardia is usually functional in origin and rarely occurs in patients with known organic cardiac disease.

It may occur due to sensitivity to tobacco, caffeine, benzadrine and its allied drugs. It may also accompany attacks of rheumatic faver, pneumonia, coronary occlusion, and thyrotoxicosis.

Pressure on carotid sinus is a simple and effective measure. The patient should be supine in bed. Firm pressure is exerted by all four fingers over the carotid sinus at the anterior border of sternocliedo-mastoid muscle at level of thyroid cartilage.. Pressure on alternate sides may be applied, but both sides should not be compressed at the same time. It is important to remember that after acute myocardial infarction, the carotid sinus may become very sensitive and that serious consequences may follow compression. Pressure over the eyeball is sometimes effective. Firm pressure from 20 to 30 seconds is made over alternate eyeballs. Other procedures are inducement of vomiting by digital stimulation of pharynx or by syrup of ipecac, drinking ice water, holding the breath, standing on head, doubling over a chair, the insertion of a suppository or finger in the anal canal, or the use of an enema.

If the attack continues, the patient should be given a dose of opiate to allay anxiety and distress.

Mecholyl is frequently effective. Severe reactions may occur but these may be avoided. The patient is placed in a reclining position and a constrictor applied above site of the injection in order to control the rate of absorption. A syringe of 1/60 gr. of atropine should be ready to use to combat untoward symptoms. The dose of mecholyl is ¼ to ½ grain (15 to 30 mg.) and is injected subcutaneously. The constrictor is released intermittently for a moment or two for a total period of about fifteen minutes to permit fractional absorption.

Quinidine sulphate orally is probably the most reliable drug for all forms of paroxysmal tachycardia. A capsule or tablet of 3 grains (0.2 gram) is given every hour until normal rhythm is restored, or for a maximum of 10 doses. Normal rhythm, when restored, may be maintained with 3 grains (0.2 grams) every four hours for two days, and then four times a day for two weeks.

If, because of vomiting or other reasons, parental administration of drugs is necessary, quinine dihydrochloride may be injected intravenously up to 0.5 gram, drop by drop, until normal rhythm is restored. Quinidine dihydrochloride in same doses as orally may be injected intramuscularly with safety.

If cardiac failure ensues during an attack of paroxysmal tachycardia, the patient should be digitalized.

If the measures mentioned above all fail, the patient may be digitalized in an attempt to correct this disorder. I prefer to give 1.2 mg. of digotoxin intravenously or orally, although a single oral dose of 9 grains (0.6 grams) of the leaf may be given and 1/3 of this dose may be administered again in 6 hours if necessary.

4. PAROXYSMAL VENTRICULAR TACHYCARDIA

Paroxysmal ventricular tachycardia usually produces regular rates between 160 and 200 beats a minute, although higher rates may be encountered.

The treatment differs somewhat from methods used in paroxysmal tachycardia. Carotid sinus or eyeball pressure and digitalis are dangerous and ineffective. Treatment with quinidine sulphate is the method of choice. Doses of 6 grains (0.4 gram) every hour are given until there is definite slowing of heart rate, after which 3 grams (0.2 gram) are given every hour until normal rhythm is established. Maintenance doses of 3 to 6 grains every 4 hours are given.

Prevention of attacks of paroxysmal ventricular tachycardia consists of avoiding factors that precipitate attacks such as worry, overeating, abdominal distention, fatigue, excitement, alcohol, tea, coffee, or tobacco. Heart disease and thyrotoxicosis should be searched for and treated if found. "Trigger mechanisms" should be irradicated if found. These are biliary colic, peptic ulcer or other painful conditions in the abdomen. Sedatives, assurance, and psychotherapy are helpful where indicated

5. EXTRA SYSTOLES (PREMATURE SYSTOLES)

Ventricular premature contractions are most frequently observed, but may arise from the sinus node or auricles. The origin can only be distinguished by electro-cardiography.

There is a large group of patients in whom there is no apparent cause for extra systoles. They persist for the life of the patient and are generally harmless and require no treatment other than reassurance and avoidance of factors such as emotional tension, fatigue, worry, use of alcohol, tea or coffee, and elimination of various disturbances of the digestive tract, such as overeating, flatulence, constipation, diarrhea or gallbladder disease.

Extra systoles may be caused by toxic actions of drugs such as digitalis, ephedrine and its allies, and these disappear if drugs are discontinued. They also occur normally during pregnancy.

Extra systoles which are due to cardiac disease are of more serious significance.

Direct treatment may not be satisfactory. Quinidine sulphate in 3 grain doses three or four times a day may be used alone or with strychnine sulphate 1/60 gr.

Sedatives such as ¼ to ½ gr. of phenobarbital may be useful when nervous or emotional factors are responsible.

6. SINUS ARRHYTHMIA

In sinus arrhythmia, the pulse rate waxes and wanes. The variations may coincide with respiration and is frequently found in patients with normal hearts, and in these cases no treatment is needed except assurance that this is not a sign of heart disease. This is a normal abnormality in childhood, is very frequent, and should be kept in the minds of those who treat children. In these children normal exercise and athletic competition is to be encouraged.

Sinus arrhythmia may also be caused by various drugs such as digitalis and quinidine. This is not a sign of major toxicity and the drug should not be discontinued.

Cerebral arterioscleroses, basal meningitis, increased intercranial pressure and various nervous disturbances may give rise to sinus arrhythmia. Treatment in these cases should be directed to underlying conditions and will disappear when the cause is eliminated.

I am sure that you have noticed the word "assurance" throughout the above remarks. This is a very excellent form of therapy if used, but is often neglected by the busy attending physician.

I have heard Dr. George Burch, consultant in cardio-vascular diseases for Oschner Clinic of New Orleans, Louisiana, state that "It is much better to make the mistake of telling a patient who has heart disease that he has no heart disease, than to make the mistake of telling a patient who has no heart disease that he has organic heart disease."

Therefore, it is of prime importance that in these patients who have a disorder of cardiac rate and rhythm, that the exact type and etiology be determined. If it is due to autonomic nervous system imbalance, or a normal variation, sufficient time should be spent with the patient to assure him and to explain the condition exactly, because it is during this first visit that the cardiac neurosis is often cured or firmly established.

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MISSISSIPPI STATE MEDICAL ASSOCIATION

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A Report on Amebiasis in a Rural Community in Mississippi

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During the period from July, 1951, through August, 1952, seventy-five cases of amebiasis were diagnosed and treated by a general practitioner of medicine in a community of approximately 10,000 people within a ten-mile radius. In the twelve years prior to 1951 only twelve cases of amebiasis had been diagnosed from this same area, an average of one case a year.

The probable reasons for the great difference in cases of amebiasis diagnosed and treated were: 1) doctors were not previously "ameba-conscious", 2) methods of collecting and preparing stool specimens for examination were improper, and 3) laboratory personnel were untrained in the technics of preparing specimens for microscopic examination and were unskilled in looking for, recognizing, and differentiating the cysts of Endamoeba histolytica from the non-pathogenic amebae, yeast forms, and artefacts which occur with great frequency in fecal material.

The seventy-five cases concerned in this report came from a large general practice of medicine in which no routine stool examinations were done. Stool examinations were done on only those patients whose history indicated that there was a possibility of intestinal parasites, with particular emphasis on Endamoeba histolytica. Of the seventy-five cases diagnosed from a careful history and the demonstration of the parasite in the stool specimen, only one presented a picture of frank amebic dysentery, with many active trophozoite forms found in the proctoscopic material. Other cases were found with active trophozoites in the stool, but without a true dysentery.

The majority of the diagnoses were made from normally passed stools or specimens collected after purgation with Fleet's phospho-soda. In these instances diagnosis was made on finding the typical cystic stage of the organism.

The technic for preparing stools for examination consisted of the preparation of a smear made directly from the specimen as it came to us for examination, part of the smear being left unstained, the other part being stained with an iodine solution. The zinc sulfate flotation concentration technic of Faust, et al.,[1] was used in concentrating the material for microscopic examination. The majority of positive specimens were found only after the concentration method was used. An average of two specimens were needed, collected from three to five days apart, before a diagnosis was established. In a number of cases only one stool was necessary, but in some instances as many as three to five were needed.

Of the seventy-five cases only two showed a definite amebic hepatitis.

The patients ranged in age from four to sixty-eight years of age, with no predisposition as to sex or color.

It was interesting to note that of the nine children in whom amebiasis was found, four showed marked evidence of underdevelopment and malnutrition, both of which conditions improved dramatically when treatment was completed. Also interesting was the fact that in only a few of these cases, especially among the children, did worm infestation occur simultaneously with amebiasis. The majority of total cases treated were uncomplicated amebiasis.

TREATMENT:

In 71 of the 75 cases Diodoquin (tablets gr. 3.2) was used as treatment, with a supplementary vitamin. In more of the cases so treated was there a recurrence noted on follow-up stools checked at one-month and three-month intervals post-therapy.

Three cases were treated with terramycin. Two of these experienced a return of symptoms and cysts were found in the stool when checked. These two cases were then given a course of Diodoquin.

The one case of frank amebic dysentery was controlled with emetine hydrochloride followed with Diodoquin.

Terramycin was not used more often because of the prohibitively high cost of the treatment. However, it was felt that Diodoquin had proved to be the drug of choice for this particular condition.

SUMMARY AND CONCLUSIONS:

1. Seventy-five cases of amebiasis were diagnosed by a general practitioner of medicine and successfully treated in one year as compared to 12 cases in the 12 preceding years;
2. Physicians previously had apparently not been "ameba-conscious";
3. Technics previously used for diagnosis had not been adequate, and technicians in general not adequately trained for accurate diagnosis of E. histolytica forms;
4. There appears to be some correlation between amebiasis and underdevelopment in children; and
5. Diodoquin appears to be an effective, relative inexpensive drug to use in the treatment of amebiasis.

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[1] Faust et al; The Zinc Sulphate Centrifugal Flotation Concentration Technic - 1938.

NEW DRUGS NEW DEVICES NEW DIGESTS

NEW DIGESTS

The growing use of television in the nation's medical schools is prophetic of a virtual revolution in medical teaching methods which may take place during the next ten years.

Dr. David S. Ruhe, director of the Medical Audio-Visual Institute, writing in the January issue of *The Journal of Medical Education* looks ahead to a time when medical schools will be linked in a TV network and when all medical students may have visual contact with the greatest medical minds of our time.

The University of Kansas Medical School is cited as one of the pioneers in educational medical TV.

A project being watched with interest is the mutual undertaking of the American Cancer Society and the Columbia Broadcasting System Laboratories, which plan television progress reports on cancer research to members of the medical profession through an educational chain of leased wires. This project will include the improvement of large-screen projected television and the development of color kinescopy so that permanent film copies of the telecasts may be made.

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NEW PRODUCT: Desoxets.

DESCRIPTION: Desoxyn plus multiple vitamins in a single compressed tablet. The anoretic-euphoric effect of Desoxyn (5 mg. per tablet) is combined with the nutritive-therapeutic effect of 9 important vitamins to protest against diet-induced vitamin deficiencies. Each small, pink-coated tablet offers a well-balanced, potent vitamin formula including 1 mcg. of B_{12}, 5000 U.S.P. units of Vitamin A (synthetic), 500 U.S.P. units vitamin D; 3 mg. thiamine mononitrate, 2.5 mg. riboflavin, 20 mg. nicotinamide, 0.5 mg. pyridoxine hydrochloride, 5 mg. pantothenic acid and 50 mg. ascorbic acid. Desoxets won't leak, break or stick together in the bottle.

DOSAGE: One tablet taken immediately upon arising and another about an hour before lunch usually suffice to cause depression of appetite and accompanying elevation of mood and mental activity. Onset of effect is usually within 20 to 60 minutes.

INDICATIONS: Wherever a sympathomimetic amine is indicated along with adjunctive multivitamin treatment.

CONTRAINDICATIONS: Desoxets should be used with caution in persons with cardiovascular disease, thyroid disturbance, insomnia, hypertension, in persons of advanced age, or persons who have shown sensitivity to ephedrine or ephedrine-like substances.

HOW SUPPLIED: In bottles of 100 and 1000 tablets.

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NEW DIGEST from Pediatric Literature submitted by Harvey F. Garrison, M.D., Jackson, Miss.

ACCIDENT PREVENTION AND THE GENERAL PRACTITIONER. George M. Wheatley, New York, N. Y. Postgrad. Med. 10:442-45, November, 1951. — Accidents are now the leading cause of death from ages 1 to 25 years, second only to heart disease in the age group of 25 to 44, and fifth in the age group over 45 years. The total number of accidental injuries in the United States, fatal and nonfatal, for 1950 was about eight times the total number of battle casualties in World War II. These figures point up the magnitude of the problem and indicate that death rates tell only a small fraction of the story. It has been estimated that for every fatal accident there are probably 100 others serious enough to disable a person for a day or more.

The treatment of accidental trauma is an important part of the average general practitioner's daily practice. But accident prevention can also play an important part in that daily practice. The general practitioner has many opportunities for child accident prevention since more than 70 per cent of child care in the United States is in his hands.

The physician's responsibility is manifold. He can observe hazardous home use of medication. He can study "accident susceptibility" and take steps to eliminate them. He can help to develop hospital and community educational programs. He can utilize the services of public health nurses whenever feasible. He uses the "vaccine" of safety education by sharing with parents his increasing awareness of hazards which occur at progressive stages of children's growth and development. He works out methods by which he can encourage constructive action by parents against these hazards without creating anxiety. To do this effectively, he must know the physical and emotional climate in which the individual child is living as well as his physical, emotional, and intellectual capacities.

COMMENT: We have a feeling that if the practitioners of medicine and the health departments would cooperate thoroughly in a campaign to advise the parents of the great dangers of household accidents this rate would be greatly reduced. It so frequently happens here that parents neglectfully put poisons down carelessly where a child can get to them. The next step is for them to call us and rush down to have the child's stomach pumped. It is an unpleasant experience for both patient and doctor. Besides, it is exceedingly dangerous from the standpoint of health and occasionally is the cause of death.

The habit of mothers and fathers of buying these little "22" rifles for children is another very dangerous and bad one. Just recently we have had two cases in the city of Jackson where two very good eyes were shot out by these "22's".

These are just a few things; there are many more which could be prevented if we would all be diligent in a campaign against such carelessness on the part of parents as well as the public as a whole.

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PROGRAM

POSTGRADUATE CANCER SEMINAR
Sponsored by
THE CENTRAL TUMOR CLINIC
Jackson, Mississippi

For the Mississippi Chapter of the American Academy of General Practice.

Under the Auspices of the Postgraduate School, University of Mississippi.

Place: Mississippi Baptist Hospital, Jackson, Mississippi.

Date: February 23 and 24, 1953.

February 23, 1953

8:30 to 9:30 A.M. — Demonstrations

"Useful Nerve Blocks in Relief of Intractable Pain," Dr. Curtis Caine.

"Proctoscopic: Indications and Technique," Dr. Leonard Posey.

"Examination of Cervix: Technique of Biopsy and Papanicolaou Smear," Dr. James Royals.

"Excision Biopsy of Skin Lesions," Dr. Raymond Martin.

9:30 to 10:50 A.M.

"Roentgen Therapy in Curable Cancer," Dr. Elmer Harris

"Diagnosis of Ovarian Cysts and Tumors," Dr. Blanche Lockard.

"Diagnosis of Brain and Cord Tumors," Dr. Charles Neill.

"Diagnosis and Management of Bone Tumors," Drs. William Warner and George Purvis.

10:50 to 11:00 A.M.

Intermission.

11:00 to 12:00 A.M.

"Carcinoma of Cervix," Dr. Vincent P. Collins, Professor and Chairman of Department of Radiology, College of Medicine, Baylor University, Houston, Texas.

12:00 to 1:30 P.M.

Lunch.

1:30 to 2:30 P.M.

Panel: "Common Intrathoracic Tumors".

Moderator: Dr. Harvey Johnston

Discussers: Drs. Rush Netterville, George Twente, George Martin, Vicksburg, Mississippi.

2:30 to 3:15 P.M.

"Cancer of Cervical Stump," Dr. George Archer, Greenville, Mississippi.

"Value of Biopsy in Diagnosis," Dr. Forrest Bratley, Jackson, Mississippi.

3:15 to 3:30 P.M.

Intermission.

3:30 to 4:30 P.M.

Panel: "Management of Abnormal Vaginal Bleeding".

Moderator: Dr. Claude Callender

Discussers: Drs. Lewis Crouch, Carl Lewis, William Wiener and John Fristoe.

5:00 to 7:00 P.M.

Entertainment.

SECOND DAY

February 24, 1953

8:30 to 9:30 A.M.

1. Tumors of Nasopharynx, Dr. Jake Evans
2. Tumors of the Face and Neck, Dr. James Hendrix.
3. Tumors of the Larynx, Dr. Ralph Sneed.
4. Significance of the Thyroid Nodule, Dr. Frank Wood.

9:30 to 10:30 A.M.

Panel: "Leukemias and Lymphomas."

Moderator: Dr. Tate Carl

Discussers: Drs. Joe Melvin, Manning Hudson, James Packer, and Kenneth Heard.

10:30 to 10:40 A.M.

Intermission.

10:40 to 11:30 A.M.

"Role of Irradiation in Carcinoma of the Breast", Dr. Vincent P. Collins, Houston, Texas.

11:30 to 12:00 P.M.

Panel: "Skin Malignancies."

Moderator: Dr. James Grant Thompson

Discussers: Drs. James Melvin and Ford Williams.

12:00 to 1:30 P.M.

Lunch.

1:30 to 2:30 P.M.

Panel: "Gastrointestinal Malignancies."

Moderator: Dr. Tom Safley

Discussers: Drs. George Gillespie, John W. Long, and Thurston Whitaker, Vicksburg, Mississippi.

2:30 to 3:15 P.M.

Panel: "GU Malignancy."

Moderator: Dr. Cy Johnson

Discussers: Drs. Julian Wiener, O. P. Myers, Charles Harrison, Greenville, Mississippi.

3:30 to 5:00 P.M.

Meeting of Central Tumor Clinic with case presentations.

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In 1888, 11.3 million persons voted for presidential electors. Recently, some 60 million participated in that election.

Fifty Year Club Biographica

THOMAS WANG HUEY

DR. HUEY

On March 20, 1870, Thomas Wang Huey was born in New Orleans, Louisiana.

In 1894, he received his M.D. degree from Tulane University. For four years, he served as health officer of Issaquena County. He served as physician for the Y and MV Railroad for more than ten years.

After graduation, he located at Dentville, Copiah County, and practiced in Gallman, Benton, Carter, Grace and later located in Jackson.

On May 27, 1951, the State Medical Association honored Doctor Huey with lifetime membership in the Fifty Year Club of the Association.

The contribution that Doctor Huey made to medical practice is noteworthy and he has brought honor to himself and the profession.

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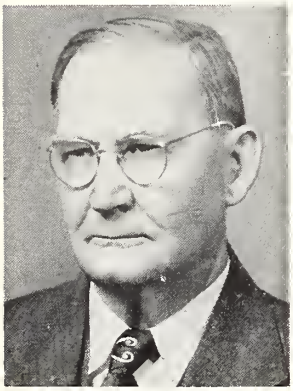
LINFIELD COSTLEY


DR. COSTLEY

On November 24, 1878, Linfield Costley, son of James S. and Lula Guice Costley, was born in Meadville, Mississippi.

He graduated from the Memphis Hospital Medical College (University of Tennessee) in May, 1901. Immediately following graduation, he located in Meadville, where he is still practicing.

Doctor Costley served as assistant county health officer during the yellow fever epidemic and later as county health officer. He served as mayor of Meadville for six years; was a member of the local draft board in World War I and II and local surgeon for the Mississippi Central RR since 1908.

He is a member of the Homochitto Valley Medical Society and also a Mason and member of WOW.

In August, 1951, he was made a lifetime member of the Fifty Year Club of the State Medical Association.

Over a period of many years, Doctor Costley has rendered service to his fellowman as a citizen and physician and has dignified the practice of medicine in the state. His record of medical practice presents a challenge.

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WILLIAM ALONZO LAND

DR. LAND

On September 29, 1873, William Alonzo Land, son of J. P. and Nancy Dees Land, was born in DeKalb, Mississippi.

Doctor Land graduated from the Memphis Hospital Medical College (University of Tennessee) in 1901. His fifty years of medical practice were recognized in 1951 by that University. He did postgraduate work in the Polyclinic, New Orleans, Louisiana.

He is a member of the East Mississippi Medical Society, a deacon in the Baptist Church and a Mason.

On December 16, 1948, Doctor Land was made a lifetime member of the Fifty Year Club of the State Medical Association.

Over a period of many years, Doctor Land has served his fellowman faithfully and well and brought honor to the medical profession.

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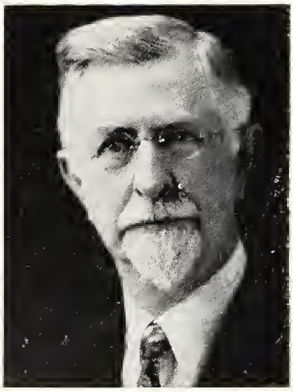
WILLIAM ALEXANDER JOHNS


DR. JOHNS

On May 5, 1869, in Corinth, Mississippi, William Alexander Johns, son of Rueben A. and Maggie Borroum Johns, was born.

He attended private and public schools of Corinth, Webb School and Vanderbilt University. He received his M.D. degree from Memphis Hospital Medical College in 1894 and did postgraduate study in New York and Chicago.

He located in Corinth in 1895 and has practiced there continuously since that time, and has specialized in EENT since 1912.

He served as health officer for many years and also as U. S. Pension Examiner and Examiner for Induction, first World War.

He serves as an elder in the First Presbyterian Church and is a Scottish Rite Mason.

On March 14, 1948, Doctor Johns was made a lifetime member of the Fifty Year Club of the State Medical Association.

Throughout a period of more than fifty years, Doctor Johns has served his fellowman in many ways. He has been an outstanding citizen and has brought honor to himself and to the medical profession.

—§—

CHARLES DANIEL DAVIS

DR. DAVIS

Charles Daniel Davis, born in Pontotoc County, Mississippi, on July 28, 1872, was the son of J. M. and Elizabeth Huntsman Davis.

On June 9, 1891, he graduated from Mississippi Normal College. He received his M.D. degree from the University of Tennessee in 1893 and took postgraduate courses at New Orleans Polyclinic in 1912 and 1914.

Doctor Davis began the practice of medicine in 1893 at McCondy, he later moved to Houston and Okolona and in 1916 located at Trebloc, where he is practicing at the present time.

On September 27, 1948, Doctor Davis was honored with lifetime membership in the Fifty Year Club of the State Medical Association.

Throughout his many years of active service, Doctor Davis has made an outstanding contribution to humanity and has brought honor to himself and to the medical profession.

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ARTHUR MURPHY DOTY
(deceased)

DR. DOTY

On January 17, 1869, Arthur Murphy Doty, son of Lemuel S. and Cornelia Blocker Murphy, was born in Richland, Mississippi.

In 1899, he graduated from Memphis Hospital Medical College, (University of Tennessee) and later attended the Polyclinic in Chicago, Illinois, and also did observation work at the University of Southern California and Johns Hopkins University and hospitals in Asheville, North Carolina, Denver, Colorado, Columbia, South Carolina, and Phoenix, Arizona.

Doctor Doty was organizer and for many years president of the Holmes County Medical Society (which later merged with the North Central Medical Association.) He was a steward and longtime member of the Lexington Methodist Church. He was a charter member of the Lexington Rotary Club, charter member, Mississippi Pharmaceutical Association, and member of volunteer Medical Service Corps in World War I.

He was a co-founder of the Lexington Holmes County Hospital and personally selected the site on which the new hospital building now stands. He also advocated health measures such as sewerage and waterworks systems for Lexington. He served as a member of the Lexington school board and was a member of Woodmen of the World.

On October 6, 1948, the Fifty-Year Club of the State Medical Association honored Doctor Doty with lifetime membership.

Doctor Doty pioneered in many medical practices and made an outstanding contribution in service to his fellowman. A long and useful life was brought to a close on February 21, 1949, when Doctor Doty died in New Orleans, Louisiana, and was buried in Lexington, Mississippi.

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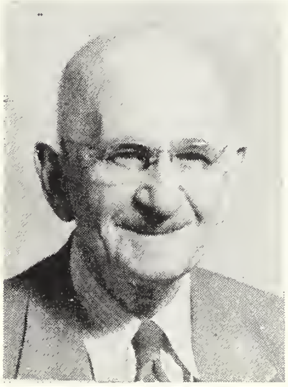
LUCIEN SYDNEY GAUDET



DR. GAUDET

On May 9, 1878, Lucien Sydney Gaudet was born in Thibodaux, Louisiana.

He received his education mostly from private schools on the plantation; he also attended Thibodaux College and graduated from Tulane University School of Medicine in 1901. He served on the staff of the Eye, Ear, Nose and Throat Hospital, New Orleans, Louisiana and also served on the staff of the Natchez Sanatorium, Natchez General Hospital, and Natchez Charity Hospital.

Doctor Gaudet is a member of the Homochitto Valley Medical Society, American Academy of Opthalmology and Otolaryngology; Diplomate of the American Board of Opthalmology and Otolaryngology.

He is a Scottish Rite Mason and has been a real community leader.

In 1951, the State Medical Association made Doctor Gaudet a lifetime member of the Fifty Year Club.

Throughout many years, Doctor Gaudet has served his fellowman faithfully and well and has brought honor to himself and the profession.

The Surgeon's Approach to the Patient with Jaundice

GUEST EDITORIAL

By HARWELL WILSON, M.D.[*]
Memphis, Tenn.

THE SUCCESSFUL management of the patient with jaundice in certain instances calls for a degree of clinical judgment and therapeutic skill greater than that necessary for the solution of many common maladies.

Before therapy can be intelligently begun, it is necessary to determine the type of jaundice which is affecting the patient. It must always be remembered that jaundice is a sign of disease and is not a disease entity *per se*. The proper recognition of the underlying pathologic process is of very real practical importance. The laboratory is often helpful to the clinician in arriving at the proper conclusion. It is well to emphasize constantly that the laboratory tests are only adjuncts to information derived from clinical examination of the patient. It is true that most experienced clinicians feel that a careful history and physical examination, combined with a careful inspection of the urine and stool specimens, will provide more help in arriving at a satisfactory diagnosis than could be obtained by any number of laboratory tests made without the benefit of a careful history and physical examination. The careful clinician uses both the clinical and the laboratory methods.

It is well recognized that certain differences usually exist in the history of a patient suffering from infectious hepatitis or cirrhosis and the patient whose common bile duct is partially or completely blocked by stone or neoplasm. Such differences, however, are not always obvious or even present. Because of this the surgeon and the medical man must be continuously on guard.

One next text on medical diseases lists 15 tests which are designed to differentiate various types of jaundice. Usually some of these tests are quite helpful, but none will give the answer to the problem. They simply supply additional information similar to that given by the white blood count in the patient with appendicitis.

A patient having jaundice resulting from infectious hepatitis usually exhibits a definite abnormality as revealed by a positive cephalin flocculation test and by a positive thymol turbidity test. These tests give evidence of liver damage. In a patient severely jaundiced from common duct obstruction due to tumor or stone, where the liver has not yet been damaged, such tests are normal. Later after hepatic damage has resulted from biliary obstruction and associated infection, the tests are also altered. An elevated serum alkaline phosphatase is by many felt to be a good indication of obstructive jaundice. To be of real value, this test also needs to be done relatively early in the course of the disease. The presence of bile in the urine is easily established by observing the color of the foam on the urine after it has been shaken in a clean bottle. The presence or absence of bile in the stools can usually be established by inspection of the specimen.

Great advances have been made in both the medical and the surgical treatment of jaundice. Patients with cirrhosis and with hepatitis placed upon rest, an appropriate high-protein, high-calorie, low-fat diet frequently improve in a manner not thought possible a few years ago.

Also, more patients with obstructive jaundice due to stone or tumor are being saved than ever before. Surgical patients are being treated earlier and by more radical and more successful methods. Transduodenal exploration of the ampullary region of the common duct is performed far more frequently than before. When indicated, this procedure may reveal a stone or tumor which otherwise might well be overlooked.

The practical significance of this problem lies in the fact that without surgery the patient with common duct obstruction due to tumor or stone is almost certainly doomed. It is also true that the patient with hepatitis or cirrhosis is a very poor operative risk and, therefore, it behooves us to do everything possible to make a correct diagnosis if the patient is to be given the best possible chance.

In conclusion, I would again emphasize that while the jaundiced patient will cause the physician or surgeon to use every available method at his command, the final decision must remain one based primarily upon clinical judgment.

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[*] From the Department of Surgery, the University of Tennessee College of Medicine, Memphis, Tennessee.

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PUBLIC RELATIONS TIP FOR FEBRUARY

The Amazing Story, a pamphlet being distributed to all physicians by the AMA, is another piece of good PR literature appropriate for your patients . . . or your waiting room table.

The Mississippi Doctor

The journal with a vision which encourages a plan of delivering modern medicine to the masses at less cost to the individual and more profit to the practitioner. It champions the community hospital, the hub around which this service must be built.

Entered as second-class matter, January 19, 1926, at the post office at Booneville, Miss., under the Act of March 3, 1870. Annual subscription, $3.00.

Published monthly at 104 Second Street, Booneville, Mississippi.

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MILDRED P. ANDERSON .... Assistant Editor
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Editorials

DOCTOR HONORED FOR CITIZENSHIP

Dr. Charles M. Murry has been named the "Man of Oxford for 1952". This is a fine honor and we are sure that he well deserves it. His father, his grandfather and his uncle, Dr. Charles M., John Y., and Will, were fine public-spirited citizens. The *Commercial Appeal* of January 24 carried a fine article on Dr. Murry's recent recognition by his fellow townsmen, in addition to photographs of himself and his family. In this article some fine ideas were quoted from Dr. Murry:

"I do not feel that any individual, regardless of age, sex, or business, should be exempt from community service". "If we do what we can for the good of the community it will be a much better place in which to live and rear our families." "I have done no more than I think I should have done for the community which I always expect to call home".

Such statements indicate thinking and willingness to shoulder responsibility. It is refreshing to see a doctor cited for good citizenship. There was a time when the public frowned on a doctor taking part in community affairs and his fellow doctors often accused him of advertising. But old ideas are giving away to new, and it is now admitted that the challenge to the medical profession is to build a citizenship adequate to meet all of life's problems. The ideas, ideals and purposes of the people of a community have much to do with this. It is certainly true that every person owes some of his time to help build a better community. The doctor is not exempt. The doctor needs to know and love his patients, and not just his clientele, but all the people of his town and his community. The American Medical Association is recognizing the value of good and active citizenship on the part of the physician and we are sure that we have a better day before us for the profession and for the people. Sterility of good positive citizenship on the part of the medical profession has constituted the greatest danger of state medicine. We congratulate Dr. Charles Murry and the people of Oxford.

§

DR. WILSON DIRECTOR OF NEW HOSPITAL

Dr. David B. Wilson who has been with the Mississippi Commission on Hospital Care since 1951, has been made director of the 350-bed University teaching hospital under construction in Jackson. This appointment was made by Chancellor J. D. Williams of the University of Mississippi. He will be responsible to Dr. D. S. Pankratz, dean of the medical school.

Dr. Wilson was born in Yazoo City. He is thoroughly trained in administrative medicine, and will help in supervising the construction, the purchase and installation of hospital equipment for the new hospital. We congratulate Dr. Williams in securing the services of this most able man. He no doubt will be a great factor in helping to build a great medical school for our state.

§

MEET US AT THE MID-SOUTH

Make your way to the Mid-South Medical Assembly February 10-13. It is well worth your time. The Mid-South gives you a fine review of the latest and best in medicine in four days and nights by the best men of the nation.

Dr. H. T. Smith of McGehee, Ark., is the able and fine president. He is pushing for the Mid-South. We also appreciate the fine work of our secretary, Dr. Thurman Crawford of Memphis, and the members of the program committee.

Memphis is a great medical center with an outstanding group of doctors with one of our largest medical schools. This city has helped to keep alive the culture and finest traditions of the South while at the same time progressing as rapidly as any city in this nation. It is good to spend a few days in Memphis, to meet your doctor friends and be inspired and helped by the fellowship.

Meet us at the Mid-South.

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SPEAKING OF TAXES

From Dr. R. J. Wilkinson, past-president of the Southern Medical Association, we received the following. He touched on some of these points in his presidential address. This editorial has food for serious thought. The everyday sickness of the average veteran could be treated by his home doctor in his home hospital or in his home with more satisfaction and with less expense to the taxpayers. It is time to practice economy even in the illness of veterans.

Speaking of Taxes . . .

It seems providential, therefore, that the A. M. A. special committee has just now completed its year-long study which, if approved and adopted, could save hundreds of millions of dollars annually in Veterans Administration medical costs.

Most of us think of VA hospitals, such as the huge, new hospital in Denver, as institutions for the care of veterans who are ill or disabled because of diseases or injuries suffered as a result of their military service.

The A. M. A. committee notes that the American people are almost unanimously in favor of free federal hospital and medical care for such veterans. However, the committee discovered that in 1951, 432,995 patients or 84.6 per cent of all patients discharged from VA hospitals that year were not veterans of that kind.

Instead, they were veterans who were in VA hospitals because of diseases or injuries incurred after they had returned to civilian life. In other words, the VA hospital and medical service which is now costing taxpayers about $600 million a year is not being conducted primarily to take care of war "victims."

The A. M. A. committee does not believe that a civilian whose leg is broken in an automobile accident is entitled to have it fixed at federal expense merely because he was a G. I. at some time in the past.

With the A. M. A. committee view, most Americans will heartily agree, we believe.

Theoretically, veterans who receive free treatment for illnesses and disabilities not connected with their war service are supposed to be men or women who are "needy."

The nonservice-connected patients sign statements that they are unable to pay for the care they are seeking free from the VA. Actually, everyone admits the statements of need are meaningless. The VA has taken the position that it cannot question the need of a patient if he is willing to sign the statement.

In bona fide cases of need, cities and counties are prepared to furnish free hospitalization and medical care. It is impossible to escape the conclusion that free care by the VA for veterans with nonservice-connected illnesses has become a nationwide racket.

The A. M. A. committee would continue free VA care in the case of service-connected disease and disability. It also would continue free VA care for nonservice-connected veterans who are in real need if those veterans are suffering from tuberculosis or psychiatric or neurological disorders.

Beyond that the A. M. A. committee would not go. It warns that already there are approximately 20 million veterans in the country and that the number is increasing by about 1 million a year.

No time should be lost in cutting down the free patient load of the VA and in ending a scandalous expense that taxpayers cannot afford.

—*The Denver Post*

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The Postgraduate Cancer Seminar sponsored by the Central Tumor Clinic of Jackson, February 23 and 24 will be held at the Baptist Hospital in Jackson. This meeting will be worth your time. Keep in mind the place and time. This is a fine piece of work for the Central Tumor Clinic.

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Visit the exhibitors of the Mid-South. They are our friends. They have done much to build and maintain this great Assembly. Dr. Gilbert Levy has done a fine job for the Mid-South by handling the exhibits in such a fine manner. We appreciate our exhibitors.

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STRESS AND HORMONE REPRINTS DESIRED

In 1950, the University of Montreal initiated the publication of a series of reference volumes entitled "Annual Reports on Stress" (Acta Medical Publishers, Montreal) in which the entire current world literature is surveyed every year (usually between 2000 and 4000 publications). Of all these, they say, reprints proved to be the best source of data which deserved prompt attention in their annual reports. Even though they have sent out several thousand individual reprint requests to authors currently engaged in research on stress and allied topics, the procedure did not give the wide coverage desired because it is impossible to contact these authors individually and it often takes too much time to get the requested reprints.

This cooperation will be greatly enhanced if investigators interested in stress research will send their reprints for this purpose as soon as they become available to Hans Selye, M.D., Ph.D., D.S., F.R.S.(C), Professor and Director of the Institute of Experimental Medicine and Surgery, University of Montreal, Canada.

HEADS MID-SOUTH

L. S. Nease, M.D.

Dr. Lloyd Stanley Nease was born in Cocke County, Tennessee, March 22, 1888. He received his early education in Cocke County and after graduation from high school in Parrottsville, Tennessee, went to Roanoke College, Salem, Virginia. In 1912 he transferred to the University of Tennessee School of Medicine in Memphis and in 1915 was graduated with the degree of Doctor of Medicine. He returned to Parrottsville, Tennessee, where he established himself in general practice.

In 1917 Dr. Nease was commissioned in the Army Medical Corps and served overseas in the 77th Division. He received the official commendation of the French government for bravery on the battle field under enemy shell fire. After his discharge from the army he opened offices in Newport where he has continued his practice as a general practitioner and specializing in obstetrics.

Since early childhood, Dr. Nease has been a member of the Salem Lutheran Church, in Cocke County.

On December 24, 1932, Dr. Nease married Miss Mary Will Ault, of Knoxville. Mrs. Nease has many interests in Newport, participating in church, club and civic affairs.

Dr. Nease was mayor of Newport for four consecutive terms. He was chairman of the Cocke County Chapter, American Red Cross, for eighteen years. He taught many First Aid classes during World War II.

Dr. Nease is a charter member of Newport Post No. 41 of the American Legion. He served as commander in its first two years of existence.

He is active in the Cocke County Farm Bureau and the Cocke County Cooperative Association. He is also active in the Masonic fraternity and is a Noble of Kerbela Temple, Knoxville, Tennessee.

In his profession, Dr. Nease is a former president of the Cocke County Medical Association, and is now a member of the Hamblen County Medical Association, Morristown, Tennessee; Mid-South Postgraduatee Medical Assembly, American Association of Railway Surgeons and American Medical Association. He holds the position of railway surgeon for the Southern Railway at Newport.

Outside his profession, Dr. Nease has two hobbies, one, his farm in Cocke County, and the other, baseball.

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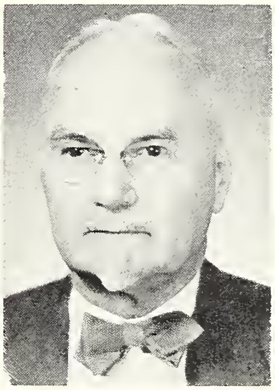
DR. McKINNON TO REPRESENT MISSISSIPPI AT DIAMOND ANNIVERSARY CONFERENCE



Dr. McKinnon

Dr. Hugh Lawson McKinnon of Hattiesburg will be Mississippi's guest of honor at the First Western Hemisphere Conference of the World Medical Association, to be held in Richmond April 23 to 25, 1953, in observance of the lengthening of life and the constant improvement of human health.

Governor Hugh White of Mississippi, in a message received here, told Governor John S. Battle of Virginia of the selection. Recently Governor Battle asked each of his 47 fellow-governors to appoint a physician who will reach the age of 75 during 1953 to visit Virginia and tell of medical advances that have taken place during his lifetime.

Dr. McKinnon, an obstetrician, of 203 Front St., Hattiesburg, was born in 1878, the year when pioneering Robert Koch published a history-making treatise on causes of infection, opening the way to rapid progress in various fields of medicine. Dr. McKinnon was graduated in 1901 from the Memphis Hospital Medical College, later merged with the University of Tennessee College of Medicine.

At the Richmond conference, guests will be greeted by Dr. Louis H. Bauer, president of the American Medical Association, and by leaders of Latin American medical societies. Besides scientific sessions, there will be opportunities for visiting historic sites in Virginia, including the eighteenth century Williamsburg restoration. Expenses of the conference, and of guests and delegates, are covered through a grant by A. H. Robins Co., Inc., ethical pharmaceutical house founded in Richmond 75 years ago next year.

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VA NEUROPSYCHIATRIC MEETING

"Dr. Harold W. Sterling, manager, has announced that the Fifth Annual Neuropsychiatric Meeting will be held at the Veterans Administration Hospital, North Little Rock, Arkansas, on February 26 and 27, 1953.

Guest lecturers who have already indicated that they will participate include the following: Dr. D. Ewen Cameron, president of the American Psychiatric Association, Montreal, Quebec, Canada; Dr. Roland P. Mackay, president-elect of the American Neurological Association, Chicago, Illinois; Dr. Dexter M. Bullard, medical director for the Chestnut Lodge Sanitarium, Rockville, Maryland; Dr. Margaret Mead, associate curator of Ethnology, the American Museum of Natural History, New York, New York; Dr. I. Arthur Mirsky, chairman of the Department of Clinical Science, University of Pittsburgh School of Medicine, Pittsburgh, Pennsylvania; Dr. Edwin F. Gildea, head of the Department of Neuropsychiatry, Washington University School of Medicine, St. Louis, Missouri; Dr. Philip Thorek, surgeon, Chicago, Illinois; Dr. Hayden C. Nicholson, Dean, University of Arkansas School of Medicine, Little Rock, Arkansas; Dr. Joseph B. Bounds, manager, Veterans Administration Hospital, Jefferson Barracks, Missouri; Miss Margaret Daniel, social service field representative, VA St. Louis Medical Area, St. Louis, Missouri; and Miss Dorothy Gregg, coordinator, Psychiatric Nursing and Mental Hygiene, University of Colorado Department of Medicine, Denver, Colorado.

In addition to scientific sessions throughout the two-day period of the meeting and the dinner Thursday evening, February 26, there will be approximately ten clinical demonstrations and thirty technical exhibits prepared by hospital staff members. On the preceding day, Wednesday, February 25, there will be an all-day meeting for psychiatric social workers of the area also at the Veterans Administration Hospital, North Little Rock, Arkansas.

There will be no charge for registration and attendance of all interested professional personnel will be welcomed subject only to limitations of seating facilities.

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RESEARCH GRANTS

In 1953 financial assistance will be available for study and research pertaining to the causes and abnormalities of the heart and blood vessels, and in their treatment. Inquiries are invited. Mississippi Heart Association, 133 South Lamar Street, Jackson, Mississippi.

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RURAL HEALTH CONFERENCE

The eighth national conference on rural health sponsored by the American Medical Association Council on Rural Health, in cooperation with the national farm organizations, will be held in the Roanoke Hotel, Roanoke, Virginia, February 27-28, 1953.

The 1953 theme is: "Widening the Highway to Health". The program is being built around such subjects and problems as financing rural medical care, how you spend your money, the place of dental care in the rural health program, and specific examples of successful accomplishment and how they have been developed and executed at the community level. Outstanding speakers have been chosen to present these talks, and ample time will be given over to general discussion at all sessions, the entire audience being invited to participate in these discussion periods.

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AMERICAN COLLEGE OF SURGEONS

More than 2000 surgeons from Canada and the United States are expected to attend an intensive, four-day sectional meeting of the American College of Surgeons in Boston, Massachusetts, March 2-5 at the Hotel Statler. The program will include panel discussions, symposia, surgical clinics in 19 leading Boston hospitals, scientific papers and cine clinic films.

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AUTORADIOGRAPHY COURSES AT OAK RIDGE

An advanced course in autoradiography and three basic courses in radioisotope techniques are course offerings of interest to medical and biological personnel planned this spring and summer by the Special Training Division of the Oak Ridge Institute of Nuclear Studies.

The autoradiography course will be held from June 15-25, and basic courses of four weeks duration will begin on June 8, July 6, and August 10.

Application forms and additional information may be obtained from the Special Training Division, Oak Ridge Institute of Nuclear Studies, P. O. Box 117, Oak Ridge, Tenn.

SOUTHWEST ALLERGY FORUM

The Southwest Allergy Forum will meet at the Hotel Muehlebach, Kansas City, Missouri, June 14-15-16, 1953. The sessions are devoted primarily to papers on practical aspects of allergy. Those interested in participating in the program are invited to write the president, Dr. Orval Withers, Bryant Bldg., Kansas City 6, Missouri.

Members of the local committee are (besides Dr. Withers): Drs. Cecil Kohn, R. Dale Dickson, Frederic Speer, Stanley Goldman, Ralph Hale, Herber Rinkel, and Vernon C. Wiksten.

For information write: Frederic Speer, M.D., Secretary - Treasurer; 2601 Parallel Ave.; Kansas City 4, Kansas.

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ANNOUNCEMENT

A. Lynn Herring, M.D., and Howell D. Woodson, M.D., announce their association for the practice of Urology and Urological Surgery and the joining of their offices in Suite 187-189, Pavilion Extended, Baptist Hospital Building, 899 Madison Avenue, Memphis, Tennessee. Telephone 5-8261.

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YOUNG PHYSICIAN interested in group or partnership general practice in small progressive Mississippi community. Exempt from present doctor draft laws. Postgraduate training: Rotating internship. Available July 1, 1953. Interested parties reply care of this journal. 9-3tp

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FOR SALE: General office equipment, x-ray and laboratory. Write Mrs. H. S. Ford, Brownfield, Miss.

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BOOK REVIEWS

Side Effects of Drugs, by L. Meyler, M.D., Consulting Physician at Groningen (Netherlands). 268 pp., published by Elsevier Publishing Company, Houston, Texas. Price $3.50.

The author, Dr. Meyler, has made a systematic and thorough search of the literature up to a few months ago, for discussion of the untoward effects of chemotherapy. *Side Effects of Drugs* is a timely book, the most modern and complete work in this field offered for the doctor's serious consideration.

"That many doctors tend to overlook the fact that the use of certain drugs in a given case can defeat that object and do more harm than good, they should remember the old saying: 'the remedy is worse than the disease'. This is the main reason for writing this book", he concludes. He analogizes: "No operation unless definitely required —no drug unless definitely indicated. Diagnosis first, treatment afterwards."

The drugs and their discussion are classified from stimulants, through depressants, antihistamines, metals, sulphonamides, antibiotics, hormones, vitamins, sera and vaccines, to unclassified therapeutic agents.

"There is always a certain risk entailed in the prescription of drugs, and in every case the physician must ask himself whether the condition he is treating justifies that risk." And no physician can afford to ignore the warnings of Dr. Meyler on the indiscriminate use of drugs!

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Physical Diagnosis, by Harry Walker, M.D., F.A.C.P., Professor of Clinical Medicine, Medical College of Virginia, Richmond, Va. 126 illustrations, 461 pp. Published by C. V. Mosby Company, St. Louis. Price $8.00.

"The more one knows about physical diagnosis, the better diagnostician he is certain to be," succinctly states the author, and proceeded to pool the diagnostic acumen of the Medical College of Virginia faculty in this excellently compiled volume. History-taking, with drawings describing distribution of pain, through the steps of body inspection and examination, the text emphasizes the indispensable signs and techniques attesting a broad knowledge of medicine. The author's style is direct, familiarizing the reader with the irrelevant as well as the relevant in order to evaluate information.

Interpretation of diagnostic aids, diagrams of body areas, and exceptional chapters on diseases of the circulatory and respiratory systems make this book extremely valuable as a text and reference.

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Synopsis of Pathology, by W. A. D. Anderson, M.A., M.D., F.A.C.P., Professor of Pathology, Marquette University School of Medicine, Milwaukee, Wis. Illustrated by 347 text illustrations and color plates. 788 pp. Published by C. V. Mosby Company, St. Louis, Mo., Price $8.00.

This is the third edition of this comprehensive presentation of pathology. Covered are morphologic, microbiologic, chemical, serologic, and other types of laboratory examination which comprise the foundation sciences for medical practice. It is purposely prepared in condensed form, that the student and general practitioner might have an easy, reliable reference. The volume is up-to-date and compiled for quick, comprehensive information. The average practicing physician will find it a dependable daily manual.

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DEATHS

DR. FRED S. GAY

Dr. Fred Shinn Gay, 74, who, with his wife, Dr. Emma Gay, founded the world-renowned Gay Asthma Clinic at Brairfield west of Biloxi 35 years ago, died January 5 at the Biloxi veterans hospital after having been in poor health for the past two years.

Dr. Gay received his medical education from Barnes Medical College, St. Louis, Mo., where he was graduated in 1904. He was licensed to practice in Mississippi in 1920, when he opened his clinic on the Gulf Coast.

He leaves his wife, Dr. Emma Gay, a daughter, Mrs. Harold Gershon, Scott, Ill., a grandson, Bobby Buck; two brothers, Dr. W. W. Gay, El Paso, Texas, and C. L. Gay, Brairfield Avenue, Biloxi, also two half-brothers, Earnest Gay, Griggsville, Ill., and John Gay, Stockton, Calif.; two half-sisters, Mrs. Frank Doren, Tuscola, Ill.; and Mrs. Terry Caselton, New York.

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DR. EARLE JOHNSON

Funeral services were held at the St. Paul's Episcopal Church in Meridian January 12 for Dr. C. Earle Johnson, 48, owner of Johnson's Sanitarium in Meridian, who died of pulmonary edema in a Tampa, Fla., hospital January 9. The Rev. Duncan M. Hobart, rector, officiated.

Dr. Johnson is survived by his wife, the former Kathleen McCain of Lineville, Ala.; a daughter, Judith Kathleen; his parents, Mr. and Mrs. C. E. Johnson of Montgomery, Ala., and a sister, Mrs. John Varner of Austin, Texas.

Widely known for his work in psychiatry, Dr. Johnson was an associate of the World Federation of Mental Health, and a fellow of the American Psychiatric Association and the American College of Physicians, and a diplomate of the American Board of Psychiatry and Neurology.

He practiced in Piedmont Hospital, Atlanta; was physician in charge at Kilby prison, Alabama; associated physician, Veterans Administration hospitals, Little Rock, Ark., and Palo Alto, Calif., Bryce hospital, Tuscaloosa, Ala., and De Jarnette State Sanitarium, Virginia.

Dr. Johnson was a member of the Lauderdale County Medical Society, the Mississippi Medical Association, a Mason and a member of Phi Beta Pi Fraternity.

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DR. IRA PARSONS

Funeral services for Dr. Ira Parsons, 76, were held December 6 from the Brookhaven funeral home. Burial was in Rose Hill cemetery with the Rev. Robert Saul officiating. Dr. Parsons died in Biloxi.

He was a former director of the Veterans Administration in Mississippi and the first commander of the American Legion in the state. He served as administration head of the veterans facility at Biloxi until his retirement and he resided in Biloxi until his death.

Born in Franklin County near Lucien, Dr. Parsons' family moved to Brookhaven when he was a youth. He attended the University of Mississippi and graduated from the Tulane University Medical School. After his graduation he practiced medicine in Brookhaven and went into the army during the Mexican border fighting in 1917. He served in the medical corps in France during World War I, coming out of the army as a lieutenant colonel.

Dr. Parsons was an Episcopalian and a member of the Masonic Order of Knights Templar.

Surving are one son, Capt. William Seavey Parsons, U. S. Navy at Cristobal, Canal Zone; two brothers, Lucien Parsons, Jackson and Dr. Willard H. Parsons, Vicksburg; and three sisters, Mrs. Cole Stingley, Mrs. Zula Burnham, Jackson and Mrs. Ruby Kelly, Birmingham, Ala. His wife, Mrs. Rose Seavey Parsons, died in 1944.

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DR. W. S. POLK

Services were conducted from the Union Baptist church on January 9 for Dr. W. S. Polk, father of a Jacksonian who died Wednesday night at the Laird hospital.

Dr. Polk, who was 71, had been in ill health for a number of years. He was a prominent resident of the Union, Mississippi, area.

His medical education was obtained at the University of Nashville, Nashville, Tenn., where he received his degree in 1905.

Among his survivors are three daughters, Mrs. Dwight L. James of Jackson, Mrs. Stanley Gaines of Boyle and Mrs. W. P. Cassel of Union, and a son, B. C. Polk of Union.

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DR. L. B. AUSTIN

Dr. L. B. Austin, long-time private practitioner of Rosedale, died at his home on coronary thrombosis January 8. He had been ill during the preceding night but had not thought his illness was serious. He was 69.

Dr. Austin is survived by his wife, the former Zoe Roberts, daughter of the late Senator and Mrs. W. B. Roberts of Rosedale. Mrs. Austin is the sister of Mrs. Walter Sillers, also of Rosedale.

In the private practice of medicine in Rosedale since 1911, Dr. Austin was also a member of the Mississippi State Board of Health from 1924 to 1945. In 1945 he was appointed vice-chairman of the Mississippi State Hospital Commission.

On being notified of Dr. Austin's death, Dr. Felix J. Underwood, executive officer of the State Board of Health, said: "In addition to being a distinguished practitioner of medicine, Dr. Austin was civic-minded and did much for his county and his state. His service as a member of the State Board of Health was a service of high order. As vice-chairman of the Hospital Commission he did much toward the improvement of hospitals of the state, and his interest in taking care of the indigent sick was unusual. I have lost a true friend and the state has lost one of its most valuable citizens."

Dr. Austin was the son of Dr. and Mrs. J. S. Austin of Vicksburg. He was educated in the Warren County schools and at Louisiana State University. In 1908, he received his medical degree from Tulane University. Early in his career he was house surgeon at the State Charity Hospital in Vicksburg.

In 1911, he entered partnership with Dr. H. L. Sutherland of Rosedale and has been in the private practice of medicine there since that time. He was a former president of the Clarksdale Six-Counties Medical Society.

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DR. DALE H. GRIFFIN

Services were conducted January 11 from the Clarksdale First Methodist Church for Dr. Dale H. Griffin, prominent Clarksdale eye, ear, nose and throat specialist, who died suddenly Friday of a heart attack. He was 68.

The Rev. W. L. Pearson, pastor, officiated with interment following in Oakridge cemetery.

A native of Mantee, Webster County, Dr. Griffin was graduated from the University of Tennessee Medical School and later took special training at medical schools in New York and Chicago.

He held membership in Coahoma County Medical Society, the Clarksdale Six-Counties Medical Society and the state and American Medical Associations. He was a member of the Methodist church and of the Clarksdale Lions Club. He had practiced in Clarksdale for 40 years.

Dr. Griffin in survived by his wife, the former Miss Bertha Owen, who was his office receptionist and was with him at the time of his death, and five brothers, J. R. Griffin of Louisiana; L. T. Griffin of Cleveland; and V. H. Griffin, Watson Griffin and Marvin Griffin, all of Mantee.

Indications for Surgery in Jaundice*

Robert M. Zollinger, M.D.*
Columbus, Ohio

The disagreeable symptoms which accompany jaundice are trying to the patient, and their evaluation offers a challenge to the physician until the cause has been determined and effective treatment instituted. How can the busy physician most effectively select those patients whose jaundice can be relieved only by surgical intervention? Has the ever increasing number of liver function tests replaced clinical judgment based on a thorough history and physical examination? An analysis of 100 consecutive jaundiced patients in each of whom the diagnosis was confirmed by operation showed that for practical purposes the indications for surgery could be narrowed down to patients having a diagnosis of common duct stone, carcinomatous obstruction, or postoperative stricture of the extrahepatic ducts.

A thorough history, including a careful analysis of the prodromal symptoms preceding the onset of jaundice, will ferret out the majority of the surgical cases from among the larger group of jaundiced patients. The diagnosis of obstructive jaundice from a common duct stone is usually associated with a past history of gallbladder disease. Approximately seven out of ten of these patients will give a typical history of biliary colic. However, it must be remembered that silent jaundice from obstruction by a common duct stone is not unusual. Following our distention experiments of the gallbladder and common duct in patients, we have been impressed with the high incidence of pronounced nausea and vomiting which occurs when the common duct is involved as compared with the distention of only the gallbladder[3]. In our series of 100 patients with common duct stone, eight out of ten gave a history of rather pronounced nausea and vomiting accompanying each attack. Chills and fever which many times were rather mild occurred in three out of five patients while a similar percentage of patients had a recurrent type of jaundice.

Mention might be made of the reliability of jaundice in establishing the diagnosis of common duct stone. Too frequently the surgeon may not seriously consider exploring the common duct for calculi unless the patient is jaundiced at the time of operation. Since the results of biliary surgery can be further improved if fewer common duct stones are left behind after cholecystectomy, it is important to emphasize how silent and atypical the history of common duct stone may be. In our series consisting of 100 consecutive cases in whom a common duct stone was recovered there was no history of jaundice in 40 per cent, or two in five; a past history in 20 per cent, or one in five; and only 40 per cent, or two in five, were actually jaundiced at the time of surgery.

As a matter of fact, it was our experience that in 100 consecutive cases only about one-half of the patients operated upon, while jaundiced, will have a stone in the common duct. Slightly more than 50 per cent or approximately one out of two had a common duct stone or a benign cause for the jaundice. In one-third of the cases a malignancy was found which was responsible for the jaundice. A mistake had been made in 10 per cent of the cases, in that a non-surgical cause for the jaundice was verified.

The history in cases of obstructive jaundice due to malignancy may not be as helpful as in the patient with a common duct stone. The so-called typical case with a painless and progressive jaundice in an elderly thin male offers little difficulty in diagnosis. However, as others have shown, more than half of these patients do have bizarre upper abdominal pain which may be quite severe. Only one out of three patients with malignancy in this series had what might be termed a painless jaundice. Therefore, painless jaundice is not a consistent and reliable diagnostic sign of obstruction due to malignancy. More diagnostic significance should be attached to persistent jaundice of increasing intensity.

Although a weight loss of more than twenty pounds was present in two out of three patients with malignant obstruction, it was surprising how frequently the intolerance of food or fear of inducing colic by eating had produced a substantial loss of weight in the majority of the benign group of jaundiced patients. The value of knowing the patient's weight loss is a more important consideration in forced nutritional replacement, whether for medical reasons as a preoperative preparation, than as a diagnostic aid in differential disgnosis. Although itching has been heralded as strong evidence in favor of surgical

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* From the Department of Surgery, the College of Medicine and the Surgical Service, the Medical Center, Ohio State University.

Presented before the Mid-South Postgraduate Medical Assembly, Memphis, Tennessee, February 12, 1953.

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Although a weight loss of more than twenty pounds was present in two out of three patients with malignant obstruction, it was surprising how frequently the intolerance of food or fear of inducing colic by eating had produced a substantial loss of weight in the majority of the benign group of jaundiced patients. The value of knowing the patient's weight loss is a more important consideration in forced nutritional replacement, whether for medical reasons or as a preoperative preparation, than as a diagnostic aid in differential diagnosis. Although itching has been heralded as strong evidence in favor of surgical jaundice we have found this symptom to be of little diagnostic significance.

The development of jaundice immediately following cholecystectomy strongly suggests injury to the common bile duct. Usually there have been technical difficulties from inadequate exposure or in controlling hemorrhage deep in the operative site. Regardless of the time interval during which jaundice develops in a patient who has had previous gallbladder surgery, the physician should make every effort to ascertain the details of the original procedure.

Although the physical examination of the jaundiced patient may be disappointing it is more likely to be contributory in surgical jaundice. A clinical impression can often be gained by observing the intensity of the jaundice. The intense greenish yellow of complete surgical jaundice from malignancy has been contrasted to the canary yellow of severe liver damage such as acute yellow atrophy of the liver.

Since the liver is usually enlarged and tender in the presence of jaundice of many types, it contributes little to the differential diagnosis unless distinct metastatic nodules can be palpated. Evidence of either primary or recurrent carcinoma in the gastro-intestinal tract suggests a metastatic spread to the region of the hilum of the liver. On the other hand, an enlarged spleen increases the diagnostic possibilities considerably. Congenital or acquired hemolytic anemia and cirrhosis of the liver must be considered and extensive hematological investigation is required before surgery can be recommended.

The finding of a distended gallbladder in the presence of obstructive jaundice from carcinoma is of considerable importance and certainly a point commonly emphasized. Every student remembers Courvosier's Law as it applies to the physical examination of the gallbladder region. In the presence of intense jaundice a distended, easily palpable gallblader is indicative of surgical jaundice from carcinomatous obstruction of the lower end of the common duct. In our series a distended gallbladder was palpable in two-thirds of the patients with carcinoma of the head of the pancreas. The absence of a distended gallbladder in the presence of jaundice favors the diagnosis of a common duct stone since the chonically infected gallbladder, which is invariably associated with cholelithiasis, cannot distend in response to the common duct obstruction. And, lastly, and easily palpable, non-tender gallbladder in the absence of jaundice is indicative of a hydrops from a stone occluding the cystic duct. The principles of Courvoisier's Law are certainly worth remembering in the investigation of the jaundiced patient.

Only after a thorough history and physical examination have been summed up in a definite clinical impression should the results of any laboratory tests be evaluated. From the large, so-called battery of liver function tests, the physician should select a few most likely to indicate a medical jaundice and a few to support a diagnosis of obstructive or surgical jaundice. When these tests are carried out early, the chance of obtaining some help in differential diagnosis is improved. If the physician delays obtaining any liver function tests for several weeks, hoping that the jaundice will subside, he nullifies the diagnostic value of many of the laboratory findings which might support surgical jaundice. Eventually superimposed liver damage from the prolonged obstruction may become evident in the laboratory tests and result in mixed or non-diagnostic findings. In ordinary hospital practice the number of laboratory tests on a jaundiced patient will approximate two dozen. If we were held to a minimum of laboratory tests we would select the icteric index as a base line for the progress of jaundice, an alkaline phosphatase for evidence of extrahepatic obstruction (surgical), and the prothrombin time, cephalin flocculation and thymol turbidity, to assess the amount of cellular liver damage.

These tests provide, to a surprising degree, the primary diagnostic support in the differentiation between medical and surgical jaundice in the cases studied.

While blood analyses require extensive laboratory facilities, the physician can readily gain valuable diagnostic assistance from repeated examinations of the stool and urine. Gray stools imply an absence of bile and if consistently so discolored, surgical intervention is strongly indicated. Although the test for bile in the urine is simple, it is of no diagnostic significance unless absent in the presence of jaundice. Under these circumstances of acholuric jaundice a diagnosis of congenital or acquired hemolytic anemia should be suspected. In the presence of a complete obstruction, bile does not reach the intestine to be converted to urobilinogen, and consequently, will be absent in the stool. Normally the urobilinogen is reabsorbed from the bowel and varying amounts are excreted in the urine. Obviously if it is absent in the intestine, there will be no urobilinogen excreted in the urine. The Ehrlich aldehyde test can easily be applied to a urine sample to determine the presence or absence of urobilinogen. When it is absent in repeated tests one may assume that the patient has an obstructive jaundice which requires surgical intervention. Unfortunately, except in complete obstruction, varying amounts of bile may reach the intestine and the above test requires, to be valid, a more complicated 24 hour estimation of the amount of urobilinogen excreted.

Although the jaundiced patient must not be "studied to death"[1] before operation, it is often desirable to delay surgery until the diagnosis of surgical jaundice is more certain. If the physician, after completing the history and physical examination, sums up his evidence as to the probable cause of jaundice, he should feel sufficiently secure in his impression to resist changing his diagnosis except in instances of most convincing and sustained laboratory evidence. This is not wasted time if the patient is energetically treated in preparation for possible operation.

Certainly no jaundice patient should be subjected to surgery without a complete gastro-intestinal x-ray study regardless of how obvious the diagnosis may seem. The discovery of unsuspected malignancy, distortion of the duodenum from carcinoma of the head of the pancreas or papilla of Vater, and appearance of gallstones are all invaluable in establishing a diagnosis in the jaundiced patient. Cholecystograms, for obvious reasons, are considered inaccurate in the presence of jaundice.

A needle biopsy of the liver is used in many clinics as an accurate and safe diagnostic method of making a differential diagnosis in cases of jaundice.[2] In experienced hands, it appears to be a very safe and reliable diagnostic procedure. Since we have observed massive intraperitoneal hemorrhages as well as bile peritonitis following this procedure, we do not share the enthusiasm of some of our medical colleagues as to the safety of this procedure. Certainly it would seem to be inadvisable in the presence of marked extrahepatic obstruction.

The improvement of nutrition should be the primary preoperative goal for the jaundiced patient. The wisdom of supplying calories and protein to the patient with liver disease has been clearly shown by Ravdin. However, there appears to be a general tendency to meet these caloric demands in a rather routine half-hearted manner by administering glucose intravenously for a few days preoperatively without paying close attention to the patient's oral intake. Metabolic studies in our clinic and elsewhere have shown that jaundiced patients lose one-third or more fat ingested. Fat is a rich source of calories and the loss should be held to a minimum. We have found it advantageous to force-feed some of these patients through a small polyethylene nasogastric tube. The fat absorption is improved almost to normal by the addition of 1 cc. of sorbitin (Tween 80) to each quart of milk in the feeding mixture. If the patient has a biliary fistula we have cannibalized bile from other postoperative patients and mixed it with the milk given through a nasogastric tube.

Vitamin deficiencies were corrected by the administration of vitamin K to insure a prothrombin level above 50 per cent of normal. One gram of vitamin C and B complex were supplied daily. Prophylactic antibiotic therapy in the form of streptomycin, aureomycin, and penicillin were given if there was evidence of sepsis. Such prophylaxis has some merit in protecting the liver should the blood supply be inadvertently injured, especially in difficult secondary operations.

In addition to oral and intravenous feeding any anemia or protein deficiency should be corrected. This is especially important as shown in our cases where two out of three had lost over twenty pounds in weight and well over one-half of these jaundiced patients had an inadequate caloric intake. Routine blood counts and serum protein determinations showed only one out of four of these patients to have a blood volume and tissue protein deficit greater than 20 per cent. This provided a false sense of security as shown by the more accurate blood volume measurements. Utilizing radioactive iodinated human serum albumin in small dosage, it was possible to make serial blood volume determinations in these jaundiced patients with a much greater degree of accuracy than hitherto possible with Evans blue dye. These results showed that 75 per cent of the cases, rather than 25 per cent, were in deficit over 20 per cent of their calculated normal. The deficits were met by repeated blood transfusions, administration of human albumin, protolysates and finally, if necessary, by plasma. We are convinced of the value of repeated blood volume determinations in the preoperative preparation of these poor risk surgical patients.

It is always advisable to re-evaluate the jaundiced patient before setting a definite time for operation. Surgery should be delayed if the re-survey of the history and physical examination is indecisive between medical and surgical jaundice. Likewise, certain laboratory tests stand out as danger signals which must not be ignored. If the cephalin and thymol tests are elevated or increased, the presence of intrahepatic cellular disease (hepatitis) rather than surgical jaundice should be considered. A reversal of the albumin globulin ratio which is not corrected by adequate preoperative preparation should also be a reason for delaying operation. Finally, low cholesterol esters, a test we did not use frequently enough, and the failure of the prothrombin level to rise well above 50 per cent in response to vitamin K therapy are highly suggestive of advanced cellular liver damage. As previously stated, we have tended to refuse surgery to any patient unless the prothrombin level can be adequately elevated above 50 per cent.

To insure a low morbidity and mortality rate the jaundiced patient requires more work and study in all aspects of diagnosis and treatment than almost any other type of patient.

Although relatively few malignancies producing obstructive jaundice can be surgically extirpated, the individual patient should be given this opportunity. In our series exploration was definitely worthwhile in two out of three of the 34 patients having obstructive jaundice from carcinoma. All were relieved of the jaundice which is certainly worthwhile as far as the comfort of the patient is concerned. In three cases the head of the pancreas was resected without a mortality. One out of three patients were less fortunate in that the malignancy was so far advanced that nothing more than proof of the diagnosis was established.

The patient with obstructive jaundice, regardless of age, should be given the benefit of surgical exploration. In a great majority of instances the benign cause can be removed and even in the presence of inoperable malignancy relief of the jaundice, so greatly appreciated by the patient, can be effected.

CONCLUSIONS

1. A clinical impression based upon a thorough history and physical examination of the jaundiced patient should be made before evaluating the laboratory evidence.

2. Laboratory tests, if made early at the onset of jaundice and repeated within a week or 10 days, provide valuable support in differentiating between medical and surgical jaundice.

3. Gray stool, decreased or absence of urobilinogen in the urine and elevated blood alkaline phosphatase support the diagnosis of surgical jaundice.

4. Elevated cephalin flocculation and thymol turbidity, poor prothrombin response to vitamin K, and low cholesterol esters support the diagnosis of medical jaundice and are reasons for delaying surgery.

5. Nutritional replacement by forced tube feedings with the addition of bile or Tween 80 and accurate replacement of blood volume deficiencies decrease the surgical risk.

6. Neither age nor etiology is a contraindication to surgery in extrahepatic jaundice since the cause can be removed or palliation provided in a high percentage of cases.

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3. Zollinger, R. M.: Significance of Pain and Vomiting in Cholelithiasis. J. A. M. A. 105: 1647, 1935.

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CIVIL SERVICE EXAMINATION

The United States Civil Service Commission has announced a new examination for medical officers for filling positions in various specialized fields of medicine, with salaries ranging from $5,940 to $10,800 a year. The positions are principally in the Bureau of Indian Affairs located on reservations west of the Mississippi River and in Alaska.

Further information and application forms may be obtained from the U. S. Civil Service Commission, Washington 25, D. C., or from most first and second class post offices.

Amenorrhea*

S. LEON ISRAEL, A.B., M.D., F.A.C.S.†
Philadelphia, Pa.

Menstruation is the result of both anabolic and catabolic processes which occur periodically in the ovary and uterus simultaneously. The cyclic ovarian changes are governed solely by the secretions of the anterior hypophysis. The latter are responsible for follicle growth, ovulation, and corpus luteum formation in the ovary. In turn, the phases of the ovarian cycle control portions of the uterine cycle. The cyclic changes in the endometrium are entirely dependent upon the hormones secreted by the ovarian follicles and the corpus luteum. The periodic, postmenstrual ripening of a group of ovarian follicles is productive of estrogen, the hormone which effects the proliferative phase in the endometrium. During the first half of the menstrual cycle, as a result of the effect of estrogen, the endometrium changes from a thin layer of cells practically devoid of glands to a tall, richly glandular tissue. At approximately the midinterval of the cycle, one of the growing ovarian follicles matures, ovulation occurs, and the collapsed follicle is transformed within a few days into a corpus luteum. The lutein cells continue, as their forebears in the follicle did, to produce estrogen but, in addition, also secrete progesterone, the characteristic principle of the corpus luteum. During the second half of the cycle, progesterone causes the estrogen-primed endometrium to become a hyperemic, highly functional tissue richly endowed with nutritive substances required for the embedment and support of a fertilized ovum. If pregnancy does not eventuate, the endometrium so earnestly constructed to house a fertilized ovum is dismantled and shed in the form of menstruation.

The rather glib exposition of the menstrual cycle given in the preceding paragraph omits several controversial and unsettled questions but it serves to emphasize the fact that the mechanism of any menstrual abnormality is complex. Confronted with such an abnormality, the physician must evaluate the possible endocrine imbalance involved and select the proper agent for its correction. Without an appreciation of the physiologic responses evoked by the therapeutic measures to be applied, any routine of treatment proposed for dysfunctional amenorrhea remains perfunctory and haphazard.

ETIOLOGY OF AMENORRHEA

Amenorrhea, just as dysmenorrhea and as menorrhagia, is merely a symptom of either a constitutional or a local disorder. It is the unphysiologic absence of menstruation. When it is of short duration (two or three months), it is termed oligomenorrhea. Amenorrhea may be called *primary* when menstruation had never appeared, and *secondary* when menstruation had previously been present. From our knowledge of the mechanism of normal menstruation, it is apparent that amenorrhea may arise from either an organic or a functional defect in any of the interdependent organs whose harmonious activity controls the menstrual cycle, namely the anterior hypophysis, the ovary and the uterus. Moreover, disturbances of endocrine glands other than the anterior hypophysis and ovaries, as well as nonendocrine illnesses, may evoke amenorrhea indirectly by affecting the function of the three organs concerned with menstruation. Thus, hyperthyroidism may cause amenorrhea by stimulating the excretion of estrogen before it is utilized by the endometrium. Likewise, starvation from any cause may evoke amenorrhea by causing pituitary deficiency.

The proper approach to the differential diagnosis of amenorrhea requires consideration of organic disease as a possible cause, demanding careful history-taking and thorough physical examination. In certain instances, it is also necessary to resort to special x-ray studies of the skull, vertebrae, and renal areas. Occasionally, pneumoperitoneum and culdoscopy are useful adjuvants in differential diagnosis. Thus, it is possible to eliminate, prior to initiating therapy in an amenorrheal woman, the presence of thyroid adenoma, pituitary tumor, ovarian neoplasm, adrenocortical lesion, and, not the least to be mentioned, of some form of pregnancy. It is imperative to remember that a woman may conceive during the course of amenorrhea. It is frequently necessary to employ biologic tests in order to be certain that pregnancy is not the cause of the amenorrhea. Thus, the finding of an enlarged uterus, suggesting early pregnancy, in a woman who has not menstruated for six months must not be ignored. If the pregnancy test in such an instance is positive, it may be assumed that the patient would have completed a menstrual cycle, thus terminating her amenorrhea, had she not become pregnant.

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Following exclusion of an organic cause, it is of interest to determine whether or not the amenorrhea is of pituitary origin by repeatedly assaying the blood or urine for gonadotropin. If there is no measurable urinary output of pituitary gonadotropin, it may be inferred that the basic disorder lies within the anterior hypophysis or its controlling hypothalmic area. If, on the other hand, there is excessive excretion of pituitary gonadotropin, the characteristic expression of a hypogonadal state, it may be concluded that the amenorrhea is of ovarian origin. It is not always feasible, however, to follow such a rational course in clinical practice. For practical purposes, it is often necessary to determine the probable etiology of amenorrhea by means of the patient's response to therapy. It is possible, in this fashion to observe the responsiveness of the endometrium to estrogen and progesterone, and to perceive the effect of combined steroids on the menstrual function.

TREATMENT OF PRIMARY AMENORRHEA

A mechanical cause of primary amenorrhea, such as intact hymen, stenotic cervix, etc., is easily recognized by means of physical examination. There remains the small group of amenorrheal women who have never experienced menarche because of either serious endocrine disorder or failure of uterine development. The small, infantile, hypoplastic uterus confronting the physician in the latter circumstance, an organ which fails to respond to estrogen by bleeding, is a prime example of developmental disturbance. The lack of uterine growth probably reflects failure of vascular development. The minuteness of the vasculature of the immature uterus, leading to profound hypoplasia of the several uterine components, makes it difficult to correct and offers a poor prognosis, unless the patient is seen at an early age. The author has had the privilege of attempting to treat 5 barren women who had primary amenorrhea. The only one who responded to many months of cyclic steroidal therapy was the sole patient under 20 years.

The major problem to be solved when faced with an example of primary amenorrhea is to determine whether or not it is of uterine developmental origin. Failure of the uterus to bleed following administration of large, prolonged doses of estrogen and progesterone implies that the avascular endometrium cannot be made to grow and to desquamate. If administration and withdrawal of ovarian steroids does result in uterine bleeding, the responsive endometrium may be considered to be free from developmental defect, and the cause of th primary amenorrhea may be ascribed to endocrine dysfunction. The type of dysfunction should be determined by means of gonadotropin assays. A high level of gonadotrophic hormone excretion by a woman with primary amenorrhea indicates ovarian failure. The degree of ovarian development may be estimated by culdoscopic visualization.

TREATMENT OF SECONDARY AMENORRHEA

The proper approach to the management of secondary amenorrhea is, as in primary amenorrhea, determination of its etiology. This may be accomplished by means of physical examination, aided by assays for pituitary gonadotropin and adrenocortical steroids. When such assays are not feasible, an estimate of the primary site of disorder may be made by means of the patient's response to therapy. The latter should include correction of abnormal living conditions, prescription of a proper diet, cure of any existing anemia, evaluation of the patient's thyroid function with a view to eliminating hypothyroidism which may be masked, trial administration of progesterone alone, cyclic usage of estrogen and progesterone, injection of gonadotropins for amenorrhea known to be the result of pituitary failure, employment of surgery in instances of palpably polycystic ovaries, cautious exhibition of cortisone in selected patients, and low-dosage irradiation to the pituitary gland and ovaries on an empiric basis.

1. CONSTITUTIONAL MEASURES. All nonspecific, hygienic procedures which will aid the patient to attain physical and mental normalcy should be employed. This is especially important for the correction of obesity or underweight. Sedentary habits should be corrected by gradually increased exercises. The diet should be accurately prescribed so that it is high in protein, the patient eating liberally of lean meat, fish, eggs and cottage cheese. It is also advisable, when the diet is low in fat, to supply one of the vitamin concentrates in order to avoid any possible subclinical deficiency.

2. DESICCATED THYROID SUBSTANCE. The administration of thyroid substance is indicated merely because of its stimulative effect in general. Of itself, desiccated thyroid substance has little influence on the amenorrhea but it is of value as an adjuvant in therapy. The initial dose should be small, such as ½ grain twice daily, irrespective of the basal metabolic rate. The dose may be gradually increased to the point of the patient's tolerance, and the maintenance dose continued at a slightly lower level. It must be remembered that for an accurate evaluation of thyroid function it is necessary to estimate, in addition to the

basal metabolic rate, the protein bound iodine of the blood serum, to determine the blood cholesterol level, and to make a tracer study of radioactive iodine. The use of desiccated thyroid is on an empiric basis unless hypothyroidism is proved by the several tests.

3. ESTROGEN AND PROGESTERONE. Such dual steroid therapy is the mainstay in the management of secondary amenorrhea, for it is both substitutive and stimulative treatment. It substitutes for a failing ovary and, at the same time, serves as a stimulant to the pituitary gland through the mechanism of cyclic administration and withdrawal. The ovarian steroids may be administered in one of several patterns. They may be given either together, as a combined injection, or separately in consecutive manner. In the former method, the amenorrheal patient may be given a combined intramuscular injection of 2.5 mg. of estradiol benzoate and 12.5 mg. of progesterone on two successive days. Using the consecutive style, one may administer 1.5 mg. of estradiol benzoate intramuscularly every third day for five doses and follow immediately with five daily injections of 10 mg. of progesterone. Such dual therapy, combined or consecutive, should be repeated for three months in succession.

The ovarian steroids may also be orally administered in the following fashion: Estrogen is given for three weeks in a daily dose of 0.5 mg, of ethinyl estradiol, or of 2 mg. of diethylstilbestrol, or of 7.5 mg. of estrone sulfate. During the final week of estrogen therapy (i.e. after estrogen has been taken for two weeks), oral progesterone is also given in the form of anhydro-hydroxy progesterone, the dose being 10 mg. six times daily for one week. In this schedule, both estrogen and progesterone are discontinued at the conclusion of the third week of therapy. The course of treatment should be repeated for three successive months, each beginning on the third day of induced bleeding.

Recent demonstration[1] that progesterone may be administered successfully orally has led to the use of a tablet in which 30 mg. of crystalline progesterone is incorporated with 1 mg. of mixed natural estrogen.* Prescribing this preparation as one tablet three times daily for five successive days, the author achieved favorable responses in 65 per cent of 42 patients with secondary amenorrhea. By doubling the dose (i.e. two tablets three times daily) 7 of 10 refractory patients were also made to experience uterine bleeding.

4. GONADOTHROPINS. Logical use of gonadotropic substances in secondary amenorrhea is limited to that type of dysfunction caused by hypopituitarism. The indication for gonadotropin therapy is demonstration of a low urinary excretion level of pituitary gonadotropic hormones. Conversely, gonadotropins are contraindicated in amenorrhea caused by ovarian failure because such patients generally produce an excess of pituitary gonadotropin of human origin may be available in the future. For the present, however, the proper mode of administration is to use equine and chorionic gonadotropin sequentially. The dose of the former should be 3000 I. U. intramuscularly daily for five successive days, and should be followed by from 1500 to 3000 I. U. of chorionic gonadotropin given intramuscularly every other day for three doses. When bleeding occurs, the therapy should be repeated once monthly three successive times.

5. SURGERY. The treatment of bilateral polycystic ovaries, particularly when found in association with amenorrhea (Stein-Leventhal syndrome), is surgical. The cystic ovaries are resected lengthwise in wedge fashion, no other therapy being required. Use of this operation, however, should be limited to patients who demonstrate criteria supporting a diagnosis of polycystic ovaries.[2] The author has operated upon four patients of this type, only one of whom later conceived despite cure of amenorrhea in all four.

6. LOW-DOSAGE IRRADIATION OF PITUITARY GLAND AND OVARIES. X-ray therapy of the pituitary gland and ovaries is presently the most effective and economical means of regulating menstrual rhythm in secondary amenorrhea. To achieve good results, however, it is imperative to recognize certain contraindications to its use, namely, it appears to be ineffective in a woman previously subjected to unilateral oophorectomy; it should not be employed prior to the age of 20 or following the age of 35 because of the vagaries of ovarian response during late adolescence and early premenopause; and the possibility of pregnancy must be excluded with certainty prior to administration of x-rays.

Proper selection of patients and fixed low-dosage assure the method's immediate safety. Late genetic sequelae have been imputed to low-dosage ovarian irradiation because of certain observations in animals. Recent studies, however, show that experimental data may not be relied upon to predict the occurrence of induced genetic changes in man.[3] As a matter of fact, the dose of x-rays administered experimentally to animals has been not only too large in comparison to the quantity administered in low-dosage therapy but has also been of whole-body type. The latter makes it particularly difficult to collate experimental observations and clinical results.

The technic of low-dosage irradiation employed by the author is that of Edeiken,[4] in which both pituitary and ovaries are irradiated at each of three sittings, one week apart. The pituitary gland is irradiated through a lateral portal of 3 x 3 cm., the central ray passing through the midpoint of an imaginary line joining the outer canthus of the eye and the external auditory meatus, alternate sides being used weekly. A single anterior portal of 15 x 15 cm. is employed for ovarian irradiation, the lower border of the field being centered just above the symphysis pubis and no attempt being made to irradiate each ovary separately. The factors employed are 140 kilovolts, 50 cm. focal skin distance, and filtration of 0.25 mm. of copper plus 1.0 mm. of aluminum. A dose of from 80 to 100 r, measured in air, is given each week to each field. The tissue dose reaching the pituitary and ovaries in women of average size is approximately equal since both lie about 8 cm. from the skin level. From depth-dosage tables, it may be calculated that about half of the air-dosage administered reaches the tissue at the level of 8 cm. from the surface of the body.

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* Cyclogesterin, Upjohn, supplied through the courtesy of Dr. H. F. Hailman.

The author recently reported an incidence of "cure" of secondary amenorrhea by means of low-dosage x-ray therapy of 71 per cent.[5]

SUMMARY

The differential diagnosis of amenorrhea includes consideration of several organic diseases, as well as remembrance of the fact that it is possible for a woman to conceive during the course of amenorrhea.

Primary amenorrhea has poor therapeutic prognosis, which may be gauged by the response of the uterus following the administration of large, prolonged doses of estrogen and progesterone.

There is no single, no specific therapy of secondary amenorrhea. Presently, it includes correction of abnormal living conditions, prescription of a proper diet, cure of any existing anemia, regulation of any disordered thyroid function, administration of ovarian steroids, injection of gonadotropins, employment of ovarian resection, and low-dosage irradiation to the pituitary gland and ovaries. The author's best results are attained by means of the x-ray therapy, the effectiveness of which is presently inexplicable.

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FOUR BEACHAMS

A recent issue of THE TULANIAN had an article captioned "Meet the Beacham Brothers". We excerpt:

THE fourth Beacham brother is now a fellow in the American College of Surgeons. He is Dr. Dan W. Beacham, instructor in clinical gynecology and obstetrics in the school of medicine at Tulane, who was admitted to fellowship in the college at a special convocation this fall in New York.

This is believed to be the first time in the history of the college that four brothers have served as fellows in the American College of Surgeons at one time.

Other fellows in the Beacham family include Dr. Hugh T. Beacham, New Orleans urologist, who was named a fellow in 1936 and is now a life member of the college; Dr. Woodard D. Beacham, professor of clinical gynecology and obstetrics at Tulane, who became a fellow in 1943 and who is also a life member; and Dr. Aubrey V. Beacham, general surgeon from Magnolia, Miss., a fellow since 1948.

All brothers are medical graduates of Tulane, except Dr. Dan, who is a 1943 graduate of the Lousiana State University medical school. However, the Tulanian brothers are quick to point out that Dr. Dan is a Tulanian, too.

"Dan took several courses at Tulane," they emphasize.

Dr. Hugh is clinical associate professor of urology at LSU and Dr. Aubrey is president of the Mississippi Hospital Association.

The Beacham brothers served their internships and residencies at the Charity Hospital of Louisiana in New Orleans. Their father, the late Woodard D. Beacham, was an 1899 graduate of Tulane and engaged in the practice of general medicine in Mississippi where he was a leader in the field of public health.

The fifth Beacham brother, H. Wayne Beacham, is director of the Leake County division of the U. S. Soil conservation department at Carthage, Miss.

Urinary Tract Infections (Non-specific)

DR. CYRUS C. JOHNSON
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THE NON-SPECIFIC, urinary tract infections, or those in which gonorrhea, tuberculosis, actinomycosis, blastomycosis and syphilis are excluded is the subject of this discussion. These infections may be divided into two main classifications: 1) the uncomplicated or simple type infection and 2) the complicated or obstructive type of infection in which urinary stasis resulting from obstruction, neuromuscular inertia or atonic changes in the urinary channels subsequent to longstanding infection is the main factor.

Uncomplicated or simple infections:

1. Pyelonephritis (pyelitis):
        Acute
        Chronic
        Atrophic
    Cystitis
    Prostatitis
    Epididymitis
    Urethritis
2. Amicrobic pyuria.
3. Renal carbuncle or perirenal abscess.

Complicated or obstructive infections with some of the obstructive causes.

1. Calculi (renal, ureteral, bladder, urethral).
2. Anomalies of kidneys and ureters
    Duplicated kidneys and ureters,
    Ectopic kidneys, especially pelvic ones,
    Hypoplastic kidney
3. Uretero-pelvic obstruction
    Congenital narrowing or stricture
    Anomalous vessels
    Fibrous bands
    Abnormal ureteral openings
4. Ureteral obstruction.
    1) Pyelitis of pregnancy
    2) Ureteral stricture
        Congenital
        Traumatic
    3) Neurogenic or megaloureter
    4) Extrinsic pressure
        Pelvic tumor
        Vena caval ureter
    5) Ureteral Tumor
5. Uretero-vesical obstruction
    1) Congenital stricture or narrowing of ureteral meatus or intramural ureter
    2) Ureterocele
6. Bladder obstruction
    1) Prostatism
        Hyperplasia
        Median Bar
        Carcinoma
    2) Diverticuli
        Acquired
        Congenital
    3) Neurogenic bladder
        a. Spina bifida occulta
        b. Paraplegic
        c. Multiple sclerosis
        d. Diabetes
        e. Tables dorsalis
        f. Cord Tumors
    4) Contracture bladder neck
    5) Cystocele
    6) Tumors
7. Urethral obstruction.
    1) Phimosis
    2) Meatal stricture
    3) Urethral stricture
    4) Valves of posterior or prostatic urethra.

ETIOLOGY

The infecting organism is usually a bacillus of the colon typhoid group. It used to be thought that the offending bacillus was Escherichia coli. Close culture studies show that E. coli, while the main offender, actually occurs only about one fourth as often as it was once given credit for occurring. Other organisms of the infecting bacillary group are Aerobacter aerogenes, Escherichia intermediate, paracolon Coliforme, Pseudomonas aeruginosa, Proteus vulgaris and Alkalegenes fecalis.

The incidence of staphylococcus infection is second only to that of Escherichia and in some reports has been even greater. Staph aureus is most often found and may be hemolytic or nonhemolytic. Staph albus is most commonly a contaminant and yet it has been found in 4 per cent of cultures by Allen. Both aureus and albus are pathogenic to the urinary tract.

Streptococcus incidence is slightly less than that of staphylococcus ranging from 10 per cent to 20 per cent. These may be hemolytic or nonhemolytic. Streptococcus fecalis found in about 10 per cent of urinary infections in children is the organism responsible for 75 per cent of strep infections producing endocarditis.

Pneumococci are occasionally isolated in the urinary infection.

MODE OR ROUTE OF INFECTION

In infection of the urinary tract the kidney must always be considered to be involved until proved otherwise. Routes of invasion of the kidney are: 1) hematogenous or descending infection and 2) urogenous or ascending infection. The hematogenous or descending infection is the usual route of renal invasion by bacteria. This mechanism presupposes an active focus of infection elsewhere. These foci according to Campbell's textbook of *Clinical Pediatric Urology* are chiefly in the upper respiratory tract (tonsil, adenoid, middle ear, sinus, dental, apical infections, gingivitis), in the lower respiratory tract (pneumonia, bronchitis, empyema) or in the intestinal tract especially, gastro-enteritis. Other foci of infection are cutaneous (boils, carbuncles, infected wounds, paronychia), osteomyelitis, prostatitis, seminal vasculitis, bacterial endocarditis, and infection from the opposite infected kidney.

The urogenous or ascending infection indicates the bacteria reach the kidney by ascending from the lower urinary tract and the route may be urogenous, lymphogenous or lymphohematogenous. Infection spread by reflux is the usual mechanism via the urogenous route. This reflux is accomplished because the ureteral orifices are incompetent as a result of bladder neck obstruction. Vesical contraction forces infected urine in the bladder up the ureters. Regurgitation is to be distinguished from ureteral reflux and occurs when vesical contraction and ureteral efflux or ejaculation are simultaneous. The contracting bladder forces its infected urine through the physiologically opened ureteral orifice. Reverse peristasis which may occur with a ureteral stone or a ureteral stricture may also push infection retrograde toward the kidney.

Comparatively little is known about ascending infections via the lymphogenous route. It is most likely that these infections are really lymphohematogenous in origin. Bacteria may drain through the communicating lymphatics from foci of infection in the external genitalia, urethra, bladder and lower ureter to the regional lymphatics and finally into the thoracic duct and into the general blood circulation through which they are carried to the kidney.

Bacteria may also enter the kidney as a result of trauma. This trauma may be produced by a blow to the flank causing a kidney laceration and a hematoma resulting in an ideal culture medium from bacteria or the infection may occur as result of instrumental introduction or surgical attack.

Kidney infection as a result of direct extension of infection from an adjacent organ may occur. Appendicitis, appendiceal abscess, salpingitis, psoas abscess, empyema and spinal osteomyelitis are examples.

Direct implantation of bacteria as a result of instrumentation whether with a urethral catheter, cystoscope or ureteral catheter may also occur. Generally speaking a urinary tract that has no stasis is not infected by this route.

The urogenous or ascending type of infection is more common in the female than the male. This is understandable when one realizes that the length of the adult female urethra is no longer than 1½ inches, that it lies in a bacteriologically dirty area of the body and that it is subjected to the trauma of not only wiping with toilet tissues but the trauma of sexual intercourse and childbirth. Colon bacilli frequently inhabit the normal urethra of healthy women (14 of 142 examinations, Savor). In young children the incidence of kidney infection is higher in girls, three to one, ascribed to diaper infections producing a urethrocystitis and subsequent ascending infection. Honeymoon urethro-cystitis is not at all uncommon and this often also produces a kidney infection by ascending. Instrumentation of the urethra usually carries bacteria into the bladder, or by trauma to the urethral mucosa permits penetration of bacteria already present to gain access to blood stream resulting in urethral chill and fever. Such instrumentation may also cause a prostatitis or epididymitis in the male and renal infection in both sexes.

Now let us turn our attention to infection of the ureter, bladder, prostate, epididymis and urethra. With the exception of the bladder all of them may be either by hematogenous or descending type infection or by the urogenous or ascending type infection. Cystitis is almost never a primary lesion in the urogenital tract but is a complication of infection elsewhere in either the kidney or urethra. Non-specific urethritis in the male may follow intercourse with women having a non-specific leucorrhea but usually accessory factors such as prostatitis, cystitis or pyelonephritis are found.

DIAGNOSIS

The diagnosis is made by a suggestive history, objective physical findings, urinalysis, renal function tests, x-rays and cystoscopy.

1. The history may be that of any one or a multiple of the following: frequency of urination day and night, dysuria, urgency, backache, straining to urinate, feeling of having incompletely emptied bladder, pain along course of urinary tract, chills, fever, nausea, vomiting, vague abdominal discomfort, tympanites (abdominal gas), cloudy or bloody urine, urethral discharge, etc.

A history of the general systems and to include any recent illness like upper respiratory infection, dental difficulties, gastro-enteritis, influenza or other infectious diseases, venereal disease, post-operative catheterization and pyuria or pyelitis of pregnancy may be helpful in arriving at the etiology of the infection.

2. A general physical examination must be done with special attention to any foci of infection, the blood pressure, the knee jerks. The abdomen and flank or kidney regions must be palpated for masses and tender or painful areas.

3. A thorough examination of the external genitalia must be done to include inspection and palpation. Only too often are the testicles and epididymes hurriedly passed over. The presence of any urethral discharge is noted and if present smears are taken for standing.

4. A two-glass urine specimen in the male and a catheterized specimen in the female is next collected. The first glass is inspected for mucosal shreds and the second glass centrifuged and a thorough urinalysis done. A stained sediment study for pus and organisms must be included. The urine should be classified into the following group a) negative, b) containing pus without organisms, c) pus with bacilli, d) pus with cocci, or e) pus with both bacilli and cocci, and f) pus with a specific organism as the tubercle bacillus.

According to Hinman "It must be remembered that serious renal infections occur in the presence of urine that is perfectly normal microscopically and culturally, and that some infections of the lower tract may give marked pyuria, chills, fever, etc., with perfectly normal uninfected kidneys." An example of the former is that of a perinephritic abscess or a sudden complete obstruction of a kidney at the uretero-pelvic junction or along course of the ureter due to a calculus and ensuing infection proximal to the obstruction. An example of the latter is an acute prostatitis or epididymitis.

A stained urinary sediment must be done to really find bacteria. A methylene blue stain takes only 30 seconds to one minute and only too often are bacilli and cocci found, when on a wet preparation of the urine neither pus nor bacteria are seen. The stained sediment may show no pus or only a scattered pus cell, associated with the bacteriuria which in most instances is a bacilluria. This condition identified as bacteriuria is extremely common in children. When no organisms are found with the pus, special stains should be done for T. B. and a guinea pig inoculated for T. B. Especially should one think of tuberculosis if a pyuria without bacteriuria exists in an acid urine and there is no evidence of lower urinary tract infection as a chronic prostatitis or urethritis.

5. An examination of the prostate and seminal vesicles should be done next. Special attention should be made to the size, consistency and tenderness of the prostate and seminal vesicles. Unless an acute, swollen, exquisitely tender and hot prostate is found a thorough massage of the prostate and seminal vesicle region should be done, the secretion collected on a slide and studied microscopically for pus and organisms.

6. A PSP kidney function is next in order. It serves a two-fold purpose in that it not only gives us the functioning condition of one or both kidneys but also gives us a clue as to whether the patient is emptying his or her bladder. Thus an obstruction in the lower urinary tract or an unsuspected neurogenic bladder is detected without having to catheterize the patient. About 60 per cent of the PSP is excreted at the end of one hour. An old man with prostatism, who voids 200 cc. at end of one hour which shows 40 per cent PSP excreted, may be assumed to be holding a bladder residual of 50 to 100 cc. If his urine is negative, catheterization may, in satisfying our curiosity as to actual amount of residual, produce infection since stasis exists. If the urine is infected as already previously determined or if there is only a small amount of PSP excreted, say 20 to 30 per cent, then passage of a urethral catheter should be done not only to check residual but principally to collect this residual to accurately determine total kidney function.

7. X-rays. These are not done routinely at my office unless upper tract pathology is suspected. The only reason they are not done routinely, however, is because the cost to the patient is often prohibitive. If I had my way, every patient would have the benefit of a KUB and excretory urograms (intravenous pyelogram) because so often pathology is picked up that is not suspected. A diagnosis of upper or mid-tract pathology can often be made with excretory urograms alone although often the excretory urograms must be supplemented with cystoscopy and retrograde pyeloureterograms. With excretory urograms each kidney can be observed as to its function and drainage without the ureters being distorted by ureteral catheters. In case of obstruction, the site is usually determined by dilatation of the proximal tract. In order to obtain excretory urograms, a satisfactory kidney function must exist as determined previously by the PSP kidney function test. The PSP of 25 per cent or less very rarely will concentrate the iodide media sufficiently to get satisfactory urograms. A KUB alone, although often of some help in spotting an enlarged or small kidney or a suspected calculus, may just as often lull one into a sense of false security, while total destruction of one or

both kidneys, due to a now opaque calculus or some other obstructive lesion, goes on.

8. Cystoscopy: Cystoscopy is not done in the presence of acute infection if it can be avoided. At that time it is not only extremely uncomfortable for the patient but often the nature of the pathology can be better seen in a subacute or chronic stage when there is less edema, less reddening and the patient is able to keep still on the table. A few days of chemotherapy or antibiotics to arrest or diminish the infection prior to cystoscopy is desirable. Even if no apparent infection exists and cystoscopy is indicated, in the male particularly, a few days of chemotherapy prior to and afterwards will lessen the likelihood of a febrile reaction and or subsequent infection. Cystoscopy can be done with much more impunity in the female than the male because in the latter the long anterior urethra and prostatic urethra must be traversed often producing a prostatitis. Cystoscopy in the female produces usually no more discomfort than catheterization. Since about 75 per cent of the women seen by the urologist complaining of frequency, dysuria and "gravel" have urethritis it is a simple matter while she is on the examining table, after obtaining a catheterized urine that is grossly clear, to pass a McCarthy panendoscope and study the bladder and urethra. One highly nervous woman, who had a horrible fear of cystoscopy, under just such circumstances was cystoscoped without knowing it until she was out of the examining room and was told she had been cystoscoped. At the time of cystoscopy urine for study from either kidney may be collected by passing a ureteral catheter.

Generally speaking a pyuria that is producing chills and fever is due to an acute kidney infection. There is usually associated tenderness over the affected kidney. A pyuria that produces no fever is usually due to a cystitis, prostatitis, urethritis, urethrocystitis or a chronic kidney infection. An exception, of course, is an acute prostatitis or epididymitis which the examining finger can detect readily. Urethritis in women rarely produces pyuria and when it does rarely are organisms found. With the aid of a good history, a good physical examination, urinalysis, kidney function test, x-rays and cystoscopy, it is very rare that a definite diagnosis of urinary tract infection and the source of the infection can not be made.

TREATMENT

Most urinary tract infections are self limited, and if of the non-obstructive type, clear up rather promptly regardless of the type of therapy used. If, however, the infection persists longer than three weeks in spite of modern chemotherapy and/or antibiotics, then a thorough urological examination is indicated. It must also be remembered that even in the presence of obstruction our modern chemotherapy and antibiotics can produce a sterile urine. The infection will invariably return, however. Certainly if such an infection occurs a second or third time a complete urological examination should be done.

The treatment of the uncomplicated or simple infections will depend on the type of organisms present, cocci or bacilli. The focus of infection must also be removed but it is better to get the urinary infection under control first. It is usually a good idea to have the patient on some form of chemotherapy or antibiotics while the focus of infection is being attacked surgically or otherwise. The simple methylene blue stain will tell you whether you are dealing with a coccal or bacillary infection or whether there is a combination of the two, the so-called mixed infection. If the kidney function is relatively normal then most any of the chemotherapeutics may be employed. If there is impaired kidney function it is better not to use the sulfonamides or mandelic acid but employ one of the antibiotics like penicillin, aureomycin, chloromycetin or terramycin or use the old standby methenamine. Streptomycin and dihydrostreptomycin have a cumulative action in the presence of impaired kidney function, since 65 to 80 per cent of it is excreted by the glomeruli rather than the tubules as in the case of penicillin. Polymixin and neomycin because of their toxic effect on the kidney are rarely indicated.

The sulfonamides are usually effective against both cocci and bacilli. For this reason it is usually the drug of choice. I prefer gantrisin or one of the triple sulfas because of the little danger of precipitation of sulfa crystals in an acid urine. One tablet q.i.d. is usually adequate. The urine is examined at the end of 72 to 96 hours or sooner and if the organism is still present another therapeutic agent is employed. If the infection is coccal, the patient is put on penicillin. If the infection is bacillary the patient is put on mandelic acid or mandelamine, a combination of mandelic acid and methenamine. If there is no response the urine is cultured and sensitivity studies to the antibiotics, aureomycin, streptomycin, dihydrostreptomycin, chloromycetin, terramycin and penicillin made. In 24 to 36 hours sensitivity studies reveal which of the antibiotics the organism is most sensitive to and the patient is put on that particular one. It is better not to put the patient on the antibiotics as a trial or error method for two reasons. The first reason is the fact that these antibiotics produce a defloration of the normal intestinal bacterial flora and often severe diarrheas are produced. Secondly, they are rather expensive and the patient may object. If sensitivity studies are not available and a trial and error method must be used, generally speaking streptomycin and chloromycetin are generally effective against bacilli and aureomycin, penicillin, and terramycin against cocci. Aureomycin is probably the one of choice since it is often effective against both bacilli and cocci. Penicillin-resistant cocci often are controlled by terramycin. Some clinicians feel that a combination of antibiotics and sulfonamides is useful in controlling resistant strains of bacteria. In vitro it was found that resistance to streptomycin could be inhibited by combined use of penicillin, streptomycin and sulfadiazine. In vivo studies by Kemmelmean, Zinsser and Klein (*J. of Urol.* 65: 668-680) it was noted that while the susceptible strains were usually eliminated by the combined therapy, the resistant strains emerging being resistant to all these drugs.

Amicrobic pyuria often responds to such arsenicals as mapharsen but better to aureomycin. Occasionally staphylococcal infections will respond to intravenous arsenicals.

Chronic pyelonephritis often responds to therapy, only to return periodically to the original infection, because of the permanent tissue damage to and scarring of the organ. It may follow a course of becoming atrophic and if it does it should be removed. Not only is the atrophic kidney of little functioning value but it may produce hypertension.

The treatment of perirenal abscess is surgical drainage and chemotherapy and/or antibiotic therapy.

Let me reiterate again, that if difficulty is experienced in clearing up a so-called uncomplicated or simple infection, the chances are that obstruction is present somewhere and a complete urological work-up is indicated.

The treatment of the complicated or obstructive type of infection is aimed first at the removal of the obstruction, and this usually necessitates surgical intervention. Once the obstruction is removed then therapy already outlined for the simple infection is indicated.

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Auricular Fibrillation*

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ONE OF THE commonest and probably the most important of the disorders of the heart beat is auricular fibrillation. It is a cardiac arrhythmia characterized by extremely rapid irregular auricular impulses, by ineffectual auricular contractions, and by irregular rapid ventricular beats.

MECHANISM: Auricular fibrillation is generally considered to be due to numerous circus movements in the auricular musculature. Whereas the circus movement in auricular flutter is said to follow a regular path around the auricles, that in fibrillation follows an irregular, constantly changing path at a much higher rate (500-600 a minute as compared to around 240-300 in flutter). As a result the auricles remain distended and merely quiver or fibrillate but never completely empty. Some objections have been raised to the circus movement theory and it has been suggested that fibrillation and flutter result from rapid impulse formation in a single center. However, the weight of evidence favors the circus movement theory. As a result of the fibrillation the A V node is constantly receiving many impulses of extremely variable intensity and timing. Those reaching the node when it is refractory or relatively refractory fail to pass through to the ventricles. Therefore a ventricular response is elicited by only every third or fourth auricular impulse. Because of the irregular initiation of impulses to the ventricles the ventricular rate is irregular. Furthermore because the ventricular musculature is in a variable state of refraction at the time of arrival of the impulses the ventricular contractions are variable in force. This results in an absolute irregularity of rate and force of ventricular activity which is reflected in a similar irregularity of pulse rate.

THE ELECTROCARDIOGRAM: The characteristic electrocardiographic features of auricular fibrillation are:

1. Complete absence of P waves. There are usually continuous, slight undulations known as "f" or fibrillation waves.

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* Presented at the monthly meeting of the Coahoma County Medical Society and Clarksdale Hospital Staff, August 13, 1952.

2. Irregularly spaced QRS complexes. They also vary somewhat in their configuration.

ETIOLOGY: Auricular fibrillation occurs classically in association with rheumatic heart disease with mitral stenosis, with coronary arteriosclerotic heart disease, and with hyperthyroidism. But it may occur in any type of organic heart disease, especially where there is congestive failure. While usually associated with severe organic heart disease, it is occasionally discovered in patients with apparently normal hearts in whom the arrhythmia is precipitated by some noncardiac condition, such as pneumonia, biliary colic, or surgical operation. Also the condition occasionally appears to be purely functional without anatomic disease of the heart, in which cases it is usually paroxysmal in character.

SYMPTOMS: Auricular fibrillation per se may produce few symptoms. There are occasions when auricular fibrillation is present and the patient is entirely unaware of any cardiac disorder. Furthermore, the symptoms due to the fibrillation itself are frequently obscured by the symptoms of the associated cardiac or non-cardiac disease. Palpitation is the most common symptom. Precordial oppression or pain, anxiety, weakness, and dizziness often occur. Fainting may occur with the onset of a paroxysm. Once the fibrillation is established most of the symptoms may disappear, particularly if the rate is slow. Additional symptoms may be produced by two complications which are apt to occur as a result of fibrillation: 1) Heart failure may be precipitated by the additional strain on an already diseased heart; 2) Thrombus formation in the auricles is favored by the lack of auricular contraction, with a resultant situation favorable to embolization.

SIGNS: Complete irregularity of the heart beat is the characteristic physical sign of auricular fibrillation. With very rapid or very slow rates the irregularity is more difficult to detect and regularity may be simulated. When the ventricular rate is rapid the pulse rate is usually less than the apical rate. This pulse deficit is due to many of the weaker ventricular contractions failing to open the semilunar valves and expel the column of blood which produces the radial pulse. Another sign of auricular fibrillation that may be elicited is a variation in the loudness of the first heart sound. The second heart sound may be absent when weak ventricular beats fail to open the aortic valves.

COURSE: Prognosis depends to a great extent on the underlying cardiac pathology. Generally speaking the development of persistent auricular fibrillation is an unfavorable prognostic sign. In most cases it is associated with serious organic heart disease, and its occurrence often heralds the development of congestive failure. However, the outlook is much less grave in a condition such as hyperthyroidism where the underlying cause can be corrected. With correction of the hyperthyroidism the fibrillation usually promptly disappears. Paroxysmal fibrillation occurring in the absence of underlying cardiac disease is usually of no great importance as regards the outlook for life or the development of heart disease. Occurring in the presence of other cardiac disease it has a more serious import because it may be a harbinger of persistent fibrillation and/or congestive failure.

TREATMENT: Treatment depends on whether the arrhythmia is established or paroxysmal and whether an attempt is being made to restore sinus rhythm. Of course if there is a correctable underlying condition such as hyperthyroidism the first steps should consist of remedying that condition. In all other instances the basic treatment consists of the use of either digitalis or quinidine. No treatment may be indicated if there are no symptoms due to the arrhythmia or if paroxysms subside spontaneously after brief duration and recur infrequently. In general, digitalis is indicated if there is congestive heart failure, and it is preferred if there is serious underlying heart disease even without failure. Quinidine is usually preferred if the arrhythmia is a sympotomatic disturbance, is of recent duration, and if there is no significant cardiac enlargement and no heart failure.

Digitalis Therapy: Digitalis slows the ventricular rate in auricular fibrillation but usually does not restore sinus rhythm. Since most of the circulatory disadvantages of auricular fibrillation are due not to the irregularity but to the rapid ventricular rate, slowing of the ventricular rate accomplishes a desirable result. Digitalis acts in two ways: 1) Through vagal stimulation it shortens the refractory period. This tends to perpetuate the circus movements and therefore to foster fibrillation by rendering the tissue responsive when the excitation wave completes its circuit. 2) By direct action on the AV node and bundle digitalis slows conduction. This prevents most of the excessive auricular impulses from reaching the ventricle, permits more time for ventricular diastolic recovery and filling, and thereby produces slower more forceful ventricular contraction. Thus the vagal effect tends to maintain the fibrillation while the direct effect on the junctional conduction system slows the ventricular rate. The advantage of the latter far outweighs the disadvantage of the former. Occasionally digitalis will restore sinus rhythm. One explanation of this paradoxical effect is that in those cases the fibrillation is a manifestation of impending decompensation and the digitalis by restoring compensation removes the cause of the fibrillation.

Quinidine Therapy: Quinidine is employed in an attempt to restore normal sinus rhythm. It is usually contraindicated in chronic cardiac disease or heart failure, longstanding auricular fibrillation, and cardiac enlargement; in these circumstances fibrillation is very apt to recur if abolished, there is danger of embolization from auricular thrombi as sinus rhythm is restored, and there is danger of sudden death from cardiac standstill in patients with AV block. Quinidine by direct depressant action on the auricular musculature prolongs the refractory period. Then when the circus wave responsible for the fibrillation completes its circuit and finds the muscle still refractory, the circus movement is abolished. This permits sinus rhythm to reestablish itself. Quinidine tends to increase the ventricular rate, but this undesirable effect is unimportant if sinus rhythm is restored.

Treatment of paroxysmal auricular fibrillation is necessary only if associated with distressing symptoms, evidence of heart failure, or signs of cerebral or peripheral ischemia. When specific treatment is required digitalis or quinidine are employed as in established fibrillation.

I present the following case which is interesting because it illustrates the use of quinidine in abolishing a rather long-standing fibrillation which persisted after an underlying hyperthyroidism had been controlled.

CASE HISTORY: Mr. S. P. was first seen on March 1, 1951 with a history of extreme nervousness, chronic fatigue, about 30 pounds of weight lost in spite of a tremendous appetite, shortness of breath, and occasional ankle edema. He was 49 years old. These symptoms had been present for 2 years, gradually getting worse. Examination: Temperature 98.6, Pulse 100 (grossly irregular), Blood Pressure 135/90. He had a diffusely enlarged thyroid gland, a marked tremor of the hands, and a moderate exophthalmos. The apex of the heart was in the 5th intercostal space one centimeter left of the midclavicular line. The Electrocardiogram revealed auricular fibrillation. X-ray of the chest was negative. Basal metabolic rate was plus 61 on the first test and plus 58 on the second test. He was placed on propylthiouracil and responded very well. By July 2, 1951 he was in an essentially euthyroid condition; however, fibrillation persisted. With some trepidation, quinidine was given. The sinus rhythm was promptly restored. After 2 weeks, the quinidine was discontinued, and fibrillation recurred. Quinidine was readministered and again the fibrillation disappeared. For the next several months he was maintained on quinidine grains three daily and a maintenance dose of propylthiouracil which averaged about 200 milligrams daily. In January, 1952, the quinidine was discontinued and he continued to do extremely well, clinically, until March 17, 1952, at which time propylthiouracil was discontinued. About one week later he began fibrillating again. Resumption of both quinidine and propylthiouracil promptly abolished the fibrillation. After a few days the quinidine was discontinued and he has continued to do well on 100 milligrams of propylthiouracil daily. He is strongly opposed to having surgery and will therefore be maintained on antithyroid drugs as long as such therapy controls the condition.

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NATURAL OR UNNATURAL?

More than a century of medical progress designed to make childbirth a "more comfortable and happy event" is being slighted in the current craze for "natural childbirth" says a team of four Baltimore physicians. "It is no longer considered smart talk at the bridge table to discuss twilight sleep or painless labor," the doctors say in *Psychosomatic Medicine*.

This sort of thing prompts the doctors to ask: "Is natural childbirth natural?"

Up to this point, yes, they reply. Unreasonable and unfounded fear of labor pains undoubtedly makes the pains worse, so it is a good thing to get rid of the fear. The "natural childbirth" training prescribed for pregnant women by Britain's Dr. Grantly Dick Read helps to relax the patients, the Baltimoreans concede.

But the first thing to reconize, in the judgment of the Baltimore doctors, is that a good deal of pain is normal in childbirth. Secondly, the worst of the pain can be made more easily bearable by the use of drugs. If a woman knows that this will be done, she is not so likely to have unreasoning, exaggerated fear of the pain itself. Moreover, there is a further distinct problem: many women have deep-seated anxieties which have nothing to do with physical pain—*e.g.*, fear of increased responsibility. loss of personal freedom, economic hardships and overcrowding of the home

The Baltimoreans' conclusions: 1)"natural" childbirth, as peddled today, is nothing of the sort; 2) it can help some women to get by with smaller doses of pain-killing drugs; 3) its advantage are being so grossly exaggerated in "unbridled publicity" that tried and true methods are suffering unfairly by comparison.

Experiences in the Management of Hemophilia

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HEMOPHILIA HAS been defined as a recessively inherited, sex-linked hemorrhagic disease exhibited in its true form only in human males but transmitted by the female. Its clinical appearance in the male generally occurs during the first year of life, occasionally at birth. It has many times been diagnosed at the time of circumcision in early infancy. The disease is characterized by failure of the blood to coagulate following trauma which sometimes seems extraordinarily minor to result in such massive hemorrhages, and it is this feature which usually first directs attention to the diagnosis.

Hemorrhages may occur in any part of the body but are most frequently seen in the knee joints, elbow joints and oral or nasal mucous membranes. Minor scratches of the skin usually normal but injuries accompanied by a certain amount of crushing such as cuts from thrown stones or cuts due to falling usually bleed freely. The extraction of teeth may result in prolonged, oozing bleeding.

During the past three years the author has had the opportunity to follow continuously two children with this disease and the care of these children forms the basis of this report.

CASE I. White Male. W. McD. was first seen at the age of two years with a history of having fallen and bitten his tongue four days previously. The tongue bled profusely for several hours, then a soft clot formed from which oozing continued to occur over the next three days, intermittently. When seen, a large prune-colored fungating soft mass was seen at the juncture of the middle and anterior thirds of the tongue. When wiped off, fresh blood oozed from a half-inch laceration of the tongue underlying the mass. Remainder of physical examination revealed generalized pallor but no other positive findings. Clotting time was greater than 60 minutes (Lee-White). Bleeding time 5 minutes (Capillary). Hgb.—6 gms./100 cc. Transfusions of fresh whole blood resulted in a rise of clotting time to 15 minutes and the Hgb. was elevated to 12 gms./100 cc., but oozing of blood from the cut did not entirely cease. Five cc. of Cohn's Fraction I were then given I. V. and within 30 minutes the clotting time was 3 minutes 20 seconds. All bleeding ceased and during the next 24 hours the laceration seemed to heal completely.

Careful questioning of the family revealed that the mother was an orphan and had no knowledge whatsoever of her family. There are two other children, both girls, siblings of the patient, who have asthma and hay fever but no bleeding tendency.

A year later the patient was seen with a profusely bleeding small cut in the forehead, sustained when another child threw a rock at him. The father said that the child had had numerous bruises during the year but no lacerations. Pressure head dressing alone controlled the bleeding this time. The Lee-White clotting time was 35 minutes.

One month later he returned with severe hemarthrosis of the right knee joint apparently sustained when he stepped up into the back of the car. The Lee-White clotting time was 45 minutes. Hgb.—13 gms. Five cc. of Cohn's Fraction I I. V. resulted in a clotting time of 4 minutes, 15 minutes following injection. The knee was splinted in a partially flexed position and ice-packs applied for 24 hours. The following day 5 cc. of Cohn's Fraction I was given I. V. and the clotting time 15 minutes later was 2 minutes, 5 seconds. Progressive improvement in function occurred during the next three and one-half weeks and he was walking without pain at that time. There was no further hemorrhage.

After a hemorrhage-free period of one month he was seen with a brisk epistaxis which had occurred following a minor bump on the nose. The clotting time by the Lee-White method was 55 minutes; clot normal. Hgb. — 12.5 gms. He was given 5 cc. of Fraction I I. V. whereupon the clotting time became normal (4 minutes) within 15 minutes. The hemorrhage ceased shortly thereafter and the child seemed well.

Three weeks later he returned with a painfully swolled right knee joint (the second episode in this joint; the first occurring two months previously). Lee-White blood clotting time was 49 minutes. Following the injection of 5 cc. Fraction I it was 8 minutes. Within 12 hours pain in the joint had ceased and though splinted he moved it actively. The hemoglobin at this time was still 12.5 gms./100 cc. He was given ferrous gluconate and during the ensuing 10 months sustained innumerable bruises, many of which developed calcified nodules in their centers but he had no major hemorrhages.

Thirteen months after the last major hemorrhage he was 4 years 4 months of age, and was 45 inches tall, weighted 45 pounds, and on the Wetzel grid showed a developmental level of 44, was progressing along the "m" channel of physique evaluation and along the 15 per cent auxodrome. The hemoglobin was 13.17 gms./100 cc.

One month later he came to the office with a severe laceration of the right index finger due to a knife-blade injury. This was sutured and dressed with gelatin sponge and a pressure dressing applied, however, bleeding continued and required two transfusions of fresh whole blood and 500 cc. of fresh plasma for control. He left the hospital with a clotting time of 4 minutes, 30 seconds.

Three months later he returned with a brisk hemorrhage from the posterior pharynx due to a laceration produced by a piece of wood in his mouth. At this time was given a new preparation called "anti-hemophilic plasma" intravenously.

The plasma is dried, fresh, and said to contain a high concentration of the globulin fraction of normal plasma containing the antihemophilic substance. It is supplied by Hyland Laboratories, Berkeley, California. In this clinic the plasma supplied in one package (1 unit) is reconstituted with 25 cc. of sterile distilled water and then given rapidly I. V. His pre-injection Lee-White clotting time was 27 minutes, 15 seconds, and 20 minutes post injection it was 15 minutes. The bleeding ceased at this time, and he remained well for 4 months at which time hemorrhage again occurred in the right knee joint following a fall while running. Clotting time dropped to 50 plus minutes and 4 units of antihemophilic plasma were required to produce a normal clotting time in 36 hours. He was discharged with no pain in the knee and very good motion in the joint. The Hgb. was 12.0 gms./100 cc.

Three months later he returned with a profuse hemorrhage from the right tonsil of unknown etiology, and the clotting time was 42 minutes. Two units of Hyland antihemophilic plasma brought this down to 4 minutes and 20 seconds but 4 days later it had become elevated to 38 minutes and hemorrhage was active from the same area. One whole blood transfusion and two more units of antihemophilic plasma produced a normal clotting time in 6 hours, and cessation of the hemorrhage. In only 4 days his clotting time had dropped again to more than 30 minutes and he had sustained numerous bruises, some having occurred spontaneously, others appearing after mild trauma. One unit of antihemophilic plasma I. V. resulted in a normal clotting time in 15 minutes and he has been free of hemorrhaging for 3 months.

CASE II. White Male. J. P. a 2½-year-old white male was first seen with a massive hemorrhage in the right knee joint on 1/8/50. The history revealed that the child had been diagnosed as having hemophilia 3 months previously when he had bled profusely from a small laceration of the right index finger and required 2 transfusions of whole blood. Clotting time at the time of this episode had been greater than 40 minutes with a normal bleeding time. The mother was also an orphan as in the previous case and had no knowledge of her family. There are no siblings, and no bleeders in the father's family.

Clotting time (Lee-White) at the time he was seen with a right hemarthrosis was 35 minutes and the Hgb. was 12.75 gms./100 cc. Fifteen minutes after 5 cc. of Cohn's Fraction I were given I. V. the clotting time was 10 minutes and during the next 3 days the knee was splinted and kept at rest. Hemorrhage was gradually resorbed and over a period of 2 weeks free and painless motion was attained. However, at that time he came to the clinic with a brisk hemorrhage from the mucous membrane covering the hard palate and this was sustained while he was chewing some popcorn. Lee-White clotting time was greater than 30 minutes. Five cc. of Fraction I I. V. controlled the bleeding within 5 minutes and produced a clotting time of 6 minutes. There was no further trouble for 24 hours but the area began to ooze again at that time and he was given 2 more injections of Fraction I which controlled the bleeding for another 24 hours when it reappeared. This time he received 250 cc. of fresh whole blood plus 5 cc. of Franction I and bleeding was controlled with a clotting time of 3 minutes.

Two months later he was seen in the clinic complaining of a painful swelling of the left gastrocnemius muscle. There was a large bluish colored subcutaneous hemorrhage present with considerable pain. This had occurred without any known trauma. The clotting time was greater than 60 minutes but was reduced in 15 minutes to 4 minutes and 30 seconds following I. V. injection of 5 cc. of Fraction I.

During the past two years this boy had been remarkably free of serious hemorrhages and has shown a normal growth and development.

DISCUSSION

The exact mechanism for coagulation of the blood is still unknown but may be represented as a two-stage process, over-simplified, as follows:

I. Prothrombin + Thromboplastin + Ca^{++} —Thrombin.

II. Thrombin + Fibrinogen — Fibrin.

The essential defect in hemophilia appears to be in the thromboplastin complex or its precursor thromboplastinogen. The latter is apparently the substance needed by the hemophiliac which is present in normal plasma, whole blood or the plasma fractions used here, and which activates thromboplastin of the body tissues to form thrombin. During the past ten years numerous activating and controlling substances have been discovered in normal blood which have a part in the above process but as yet no complete agreement on the importance of these substances has been reached. The reader is referred to the article by Dam, Dyggve, Larsen and Plum[1] for review of these and other factors in the clotting mechanism. Also to the review by Patek et al[4].

As can be seen from the above presentations, attention is usually first directed to these children because of hemorrhage which does not cease following the application of pressure, or which does not cease spontaneously when it would normally be expected to. Painful swelling in joints or muscles, or numerous bruises may be the initial complaint also. The diagnosis is frequently aided by the establishment of a positive history of bleeding in other male members of the mothers' family but in both of these cases no such history was available.

The capillary bleeding time is usually normal and the prolonged clotting time is the only abnormal finding hematologically. Neither of these boy's mothers had any difficulty with bleeding.

In treating this disease we have had experience with two of the plasma concentrates which supposedly contain large amounts of the anti-hemophilic globulin which is present in the circulating plasma of normal human beings but absent in that of the hemophiliac, viz. Cohn's Fraction I and anti-hemophilic plasma.

Cohn's Fraction I became available during and immediately after World War II through the American Red Cross from whose supply of plasma the product was fractionated. It is not available now, unfortunately, for further observations upon its effectiveness but we noted that

(a) it was more effective in one of our patients than in the other causing rapid cessation of bleeding and

(b) it resulted in the maintenance of a normal clotting time for longer periods in one patient than in the other.

Over a three-year period its use in both patients always resulted in immediate improvement of the clotting time but its effect lasted only a matter of a few hours on several occasions.

Anti-hemophilic plasma is produced by a special fractionation of freshly obtained normal human plasma, pooled and dehydrated and is supplied in package which contains the dried plasma and 50 cc. of sterile distilled water for injection. Each package is designated as one unit. For ease of office administration the plasma is dissolved in 25 cc. of water and given with a 30 cc. syringe. This product has proved very helpful in both our patients and was also used in a third child not reported here who developed a massive gangrene of the tissues of the left thigh and knee as a complication to a hemarthrosis. The plasma produces a prompt fall in the clotting time but frequently this only lasts a matter of a few hours.

Of course, neither of these products can be used exclusively in these patients since it is often necessary to replenish a large red cell deficit with whole fresh blood.

Fresh plasma is also very valuable in the therapy of hemophilia since it contains the clotting factor also, but in the usually available form (250 or 500 cc. bottles) it is more cumbersome to handle and may increase the blood volume too greatly before producing a normal clotting time. Therefore, the two most useful methods of treatment are 1) fresh whole blood and 2) plasma concentrates.

The pediatrician in charge of the care of these children has, however, far from finished his responsibility simply by having some knowledge of the treatment of the disease. These children need constant guidance physically and emotionally inasmuch as there are many forms of normal activity which are inadvisable for them. Parents are hard-pushed to restrain a healthy hemophiliac child and explain throughout childhood why he cannot do the things that he feels like doing.

With both of these families we have adopted a policy of cooperative guidance care in which family, child and physician all participate at regular intervals. Reasons for restriction of activity are explained to the children in simple, straightforward terms and we have been fortunate to obtain the complete cooperation of our parents. Both children have received their basic immunizations and yearly "booster" injections. Both have been given immune serum globulin for measles prevention and have received penicillin intramuscularly on numerous occasions as treatment for such infections as otitis media, etc. We have had no complications from any injection of these substances.

On two occasions we did clotting times following the injection intramuscularly of immune serum globulin merely for information and we noted no effect.

Both children have shown consistently normal growth and development. We have considered giving the anti-hemophilic plasma at monthly intervals prophylactically since from observation it seems that in both patients they have been able to maintain reasonable clotting times for three or four weeks following injections. As yet there is no clear-cut evidence in our cases clinically of anti-body formation to the plasma concentrates used.

SUMMARY

Two cases of hemophilia are presented and the treatment discussed. Careful guidance with child-parents-physician cooperating is recommended.

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X-Ray As a Diagnostic Aid

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The medical application of x-ray began very shortly after Doctor Wilhelm Roentgen announced the discovery of the new rays in 1895. From a new curiosity of physics in 1895 the x-rays have advanced today to the point where they have become an integral part of the diagnostic process in most of the branches of medical science. The rapid growth is due in large part to the interest and scientific observations of many of the early workers in the medical x-ray field. Many of these men literally gave their lives to the development of this new medical aid.

Early in the development of x-rays in medicine, it was realized that the diagnostic use of x-rays presented two distinct but overlapping problems. These two problems were: 1) the technical problem or the problem of production of adequate films of good quality; 2) and adequate interpretation of these films and of the fluoroscopic images. In regard to this problem, I would like to quote from the early radiographic literature. In 1900 just five years after Doctor Roentgen's discovery, Doctor Lewis Weigel[1] wrote the following statement in a paper in the *Philadelphia Medical Journal*: "The differences in the results obtained by various x-ray operators from machines identical in construction prove that the possession of an apparatus is not the only requirement for successful and satisfactory work. A machine is of no value unless it is properly manipulated and it is this manipulation that enables it to do its work." Doctor Eugene Caldwell[2], one of the pioneers in insisting on maintaining high standards in the rapidly developing field of x-ray, wrote in the *New York Medical Journal* in 1909: "The almost irradicable impression that the radiograph is a picture or photograph which anyone can properly examine, interpret and criticize, has been a great hindrance to the progress of roentgenology and to its proper recognition. The radiograph is in fact not a picture or even a photograph except in the sense that photographic materials are used in its production. It is a special kind of projection and is essentially more like the slide for the microscope than a photographic view.

Unfortunately it may so much resemble a photograph that laymen and medical men alike are apt to regard it as a view and not suspect how incomplete and even how dangerous their overconfident interpretation of it may be."

Both of these statements offer a close application to many problems of diagnostic x-ray today. One of the greatest errors made by medical men untrained in the proper use of x-rays is that of assuming that anyone can make satisfactory x-ray films. Often in the smaller hospitals and in smaller communities anyone from the orderly to the office secretary may be called upon to make the x-ray films. Any of these people can be trained to make satisfactory examinations but this takes more training than a two-hour briefing by the service representative who installed the machine. It is often too true that the doctor who possesses an x-ray machine expects to get satisfactory film examinations but will turn this process over to completely untrained persons. The hospital or doctor's office which has the services of an expert x-ray technician is indeed fortunate. Before adequate or intelligent interpretation can be made of x-ray examinations it is necessary to have good quality x-ray film studies. This perhaps will be a good place to add this note: that it is neither proper nor wise to expect your x-ray technician to make interpretations of the examinations. You should expect your technician to obtain films of good quality and adequate films for the proper interpretation of the examination; the interpretation belongs in medical hands.

There is no magic formula for success in the interpretation of x-ray examinations. The value of any interpretation depends upon the knowledge, the experience and the close observation of the interpreter. The person who is going to employ x-rays as diagnostic aids must know his own limitations. If one is to do satisfactory gastro-intestinal x-ray work he must have a knowledge of safe and correct fluoroscopic procedures. The majority of x-ray burns or injuries to patients today come from the improper use of the fluoroscope. In regard to the proper use of the fluoroscope I have recently received a notice of a new book which is written by Doctor Charles B. Storch, which is entitled "Fundamentals of Clinical Fluoroscopy" with essentials of roentgen interpretations. The advance material describing this book indicates that it has been written with the general practitioner and the general surgeon in mind and attempts to outline some of the dangers and to answer some of the problems of fluoroscopic procedures. Those of you who use x-rays as a diagnostic procedure should avail yourselves of every opportunity to increase your knowledge and experience and powers of observation in regard to various x-ray procedures you employ. You must first insist that your technician obtain good quality films and adequate positions for the specific type of examinations. Close attention to proper preparation of the patient for various procedures employing contrast media must be adhered to closely. For example, the barium enema study of the colon is worth very little toward accurate diagnosis if the procedure is carried out on a patient who has been improperly or inadequately prepared. If the colon is loaded with fecal material and gas it is impossible to obtain an adequate barium enema examination. A good dose of castor oil and a cleansing enema prior to the barium examination will result in the satisfactory study in a vast majority of such cases. As another example, in intravenous pyelographic studies again a dose of castor oil 16 to 24 hours prior to the examination and dehydration of the patient for at least 12 hours prior to the examination will greatly facilitate obtaining adequate studies.

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* Presented before the Delta Medical Society, April 11, 1951.

In the interpretation of x-ray examinations it must be kept in mind constantly that we are dealing with dynamic pathological processes. Where the pathologist deals with a fixed pathological condition, the radiologist is concerned with changing pathological patterns. The radiographie findings may occur much later than the acute clinical symptoms of the disease process. For example, in acute osteomyelitis the patient's pain, fever, and tenderness begin at least ten days to two weeks before radiographic bone changes can be demonstrated. Again in the first few hours of intestinal obstruction the radiographic findings may remain negative, but if studies are made at one to two hour intervals the changing pattern suggesting the true pathology will very often develop. In a recent case with acute abdominal symptoms x-ray examinations within the first hour after onset of abdominal symptoms were negative. This case proved to be a case of massive mesenteric thrombosis. A laparotomy was performed before additional x-ray studies were obtained. It is reasonable to assume that evidence of a closed loop type of intestinal obstruction would have been shown on studies made just prior to the operation. In malignant diseases particularly metastatic diseases of bone we often find symptoms of marked pain for weeks and sometimes for months before x-ray evidence of the process can be shown. Keeping this idea of changing pathology in mind we must not accept a single negative x-ray study as eliminating the possibility of delayed radiographic pathology. If the clinical course of the disease continues to suggest pathology which should be found on x-ray examination, then we must re-study such cases from time to time with the idea of demonstrating the pathological condition and thus aiding in a differential diagnosis of the particular condition.

There are many abuses of x-ray as a diagnostic procedure just as there are abuses of many other procedures in medicine. Perhaps the greatest single abuse is that of substitution of the more rapid but often more expensive x-ray examination in place of a good clinical work-up. Doctor James F. Brailsford[3], one of the outstanding British radiologists and one of the most outspoken critics of improper employment of x-ray diagnostic procedures, has recently listed five of the most common abuses of radiology: 1) neglect of clinical methods by substitution of more rapid radiologic examinations; 2) the improper selection of the time for doing the x-ray examination; 3) desire for a spectacular result; 4) useless and undesirable radiographic procedures; 5) and interpretation without adequate knowledge.

There are several dangers connected with diagnostic x-ray procedures, about which I would like to warn you. I have already mentioned the use of the fluoroscope but I would like to elaborate on that subject a little. Anyone using the fluoroscope should be aware of the inherent dangers to himself and to the patient. A competent installation by a trained service man should be obtained and this installation should not be altered once it is put in place. The x-ray tube when used for fluoroscopy should be at least twelve inches away from the closest skin surface of the patient and should preferably be eighteen inches away from the patient. The setting of the machine should be so that five milliamperes and seventy-five kilovolt peak potential are not exceeded.

It is wise to have aluminum filter of one-half or one millimeter thickness between the x-ray tube and the patient. This filter helps eliminate some of the longer wave length x-rays which at close distances will play a great part in causing skin damage. The operator should stay in almost total darkness for at least ten minutes and preferably fifteen or twenty minutes before doing a fluoroscopic examination. The purpose of this is to secure adequate dark adaptation of the retina thus improving the visual acuity in the darkened fluoroscopic room. If the eyes are properly prepared before beginning the examination, then this removes at least part of the urge of the operator to keep increasing the output of the machine to compensate for poor vision. A total exposure time of four or five minutes for one examination on one body area should not be exceeded. I cannot warn you too strongly of the dangers of setting fractures and removing foreign bodies under the fluoroscope. When you carry out either of these procedures under the fluoroscope you are asking for eventual serious damage to yourself and unfortunately often to the patient. You will say immediately it is such a simple and quick way to do these procedures. Many such procedures will be done rapidly but the one procedure which drags along and on which you take one more look and then one more look until you have exceeded the safe dosage to your own hands and to the part of the patient under examination is the one which is dangerous. Also you must remember that repeated examinations of this type have a cumulative effect upon the skin of the hands of the operator. Even though you may not exceed the safe limits on the single examination the sum total of several examinations may pass the danger point for the operator's hands. Also somewhat along the same line of thought you should never put your bare hand in the direct beam from the fluoroscope or x-ray tube. It is well worth the twenty-five- or thirty-dollar investment to get a good pair of lead leather gloves to use for palpation under the fluoroscope. Fractures can be handled just as satisfactorily even though in many cases will be somewhat slower by manipulation and checking the position of the fractures with x-ray film studies rather than direct observation under the fluoroscope. Likewise foreign bodies can be handled satisfactorily in most cases by using good x-ray studies with skin markers near the foreign body and getting an approximation of the position of the foreign body from these films before proceeding to probe for the foreign body in question.

SUMMARY

In summary the following points should be kept in mind if you are to do adequate x-ray diagnostic work.

1. Obtain the best technical help available to you in your locality.

2. Make every possible effort to increase your powers of observation, to increase your knowledge and experience in the radiographic appearance of pathological processes.

3. Before undertaking fluoroscopic examinations acquaint yourself with the basic physics of the process of fluoroscopy.

4. Prepare your patient properly for the various procedures requiring use of contrast media.

5. Most important of all, realize at all times that you are dealing with a form of energy that has potential danger for you and your patient when improperly used.

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WANTED — MILLIONS OF MIRACLE MAKERS!

Over 60 million Americans can be miracle makers. You are probably one of them. Any person from 21 to 59 who is in good health and weighs 110 pounds or more is eligible.

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Differential Diagnosis of Skin Rashes in Eruptive Fevers*

JERALD E. ADAMS, Jr., B.S., M.D.
Cleveland, Miss.

In entering into this paper it is not intended to attempt to describe all skin eruptions, nor are the skin lesions dealt with from the specialist's standpoint, but rather from the view of the general practitioner. In our particular area much of the practitioner's work is done in the home and I am attempting here to give a concise but thorough differential diagnosis of the common generalized rashes in eruptive diseases that may be seen in our practice.

The day has passed when the practitioner can regard the acute erythemas as consisting of measles, scarlet-fever, rubellas, and chicken-pox. We have learned that a generalized eruption may be an integral part of meningococcemia, infectious mononucleosis, spirochetal invasions (especially syphilis), or rickettsial disease. Difficulties in diagnosis are further increased by the fact that fever and a rash may result from the administration of drugs in an otherwise non-eruptive infection such as the common cold and influenza.

Conscious of the many facets to the problem, the clinician must approach the diagnosis of the febrile rash with caution, avoiding such obvious "booby-traps" as the false positive Wassermann reaction in infectious mononucleosis, and the scarlatiniform outbreaks caused by analgesic antipyretics, sedatives, sulfanilamides, and arsenicals. We must realize that even the expert cannot differentiate eruptions by morphology alone and we must not refrain from collecting all available data before we commit ourselves to a definite opinion and therapeutic program.

In considering the various rashes, I am only going to consider those features peculiar to that disease and the clinical tests that are available to the average practitioner.

SCARLET FEVER: Constitutional symptoms mild to severe. The rash is a punctate lesion with confluence to diffuse erythema, herald site on neck, chest, and skin folds, spreading to the arms and legs and associated with a circumoral pallor, existing from two to six days. The usual objective findings are a pharyngotonsillitis and "strawberry tongue". Laboratory reveals a leukocytosis and relative eosinophilia. The Schultz-Charlton reaction is the specific test.

MENINGOCOCCEMIA: Constitutional symptoms mild to fulminating. The rash is maculopapular, petechial, and/or purpuric, with herald site of body and spreading to shoulders and thighs, persisting from two to five days. Headache and nucal rigidity associated. Laboratory shows a leukocytosis, bacteremia, and a turbid spinal fluid with demonstrable gram negative cocci. Staining and demonstrating gram negative coccus from the blood of the skin lesions is the specific test.

TULAREMIA: Constitutional symptoms mild to severe. Rash is maculopapular and pustular in nature with herald site on body and an irregular spread. Persistence of rash is irregular. Usually there is a history of handling rodents or tick bites with a primary papule at site of the tick bite. Laboratory studies show a leukocytosis, bacteremia, positive skin-test, and a positive agglutination reaction to Pasteurella tularensis antigen.

SYPHILIS: Constitutional symptoms range from mild to severe. The rash is maculopapular, erythema, vesicular, or pustular with an irregular herald site and spread and indefinite persistence. Healed chancre is the usual objective finding. Specific features of the disease are history of chancre, positive darkfield and serology.

RAT-BITE FEVER: The constitutional symptoms are mild to moderate. The rash is maculopapular with a herald site of chest and arms, an irregular spread and duration. Suggestive objective finding is the site of the bite with lymphangitis. Laboratory usually shows a leukocytosis and false positive Wassermann reaction. Specific features of the disease are the history of a rat bite and demonstration of spirochetes on aspiration of an involved lymph node.

TYPHUS FEVER: Constitutional symptoms range from mild to severe. The rash is macular and petechial with the herald site of axilla and loins, spreading to abdomen, chest, and back, and persisting from two to ten days. There are no objective findings. Laboratory shows a moderate leukocytosis. The Weil-Felix agglutination reaction is specific in diagnosing.

ROCKY MOUNTAIN SPOTTED FEVER: The constitutional symptoms range from mild to severe. The rash is maculopapular and petechial with wrists and ankles as herald sites, spreading to scalp, chest, and abdomen; persisting from two to three weeks. The tick bite is the specific feature of the disease. Laboratory shows a leukocytosis. The Weil-Felix reaction is specific.

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* Presented before the Delta Medical Society.

MEASLES: The constitutional symptoms range from moderate to severe. The rash is a raised macular and maculopapular one with a herald site of the face and spreading to the extremities and body; persisting from three to ten days. Epidemic and demonstration of Koplik spots are the specific features of the disease. The suggestive objective findings are catarrhal respiratory symptoms and conjunctivitis. Laboratory examination will frequently show a false positive Wassermann reaction and a leukopenia in absence of secondary infection. There is no specific test for this disease.

RUBELLA: The constitutional symptoms are usually always mild. There is a maculopapular and erythema rash with a herald site behind the ears, spreading to the body and extremities, and persisting from one to three days. Postcervical lymphadenopathy is a specific feature of the disease. The laboratory findings are usually normal and there is no specific test.

(FILATOW-DUKE'S DISEASE): Mild constitutional symptoms. The rash is a diffuse erythema with a herald site on face, spreading to the body and extremities, and persisting from two to three days. There are no objective findings of value and laboratory studies are unrevealing. The Schultz-Charlton reaction is negative which is the most helpful diagnostic and in distinguishing it from scarlet fever.

ERYTHEMA INFECTIOSUM: Usually mild constitutional symptoms. The rash is macular with herald site on face, spreading to body and extremities, and persisting from two to ten days. There are no Koplik spots. Laboratory findings show a definite leukopenia. There are no specific findings or diagnostic tests.

ROSEOLA INFANTUM OR ROSE RASH: Moderate constitutional symptoms. Rash is erythema or maculopapular but never raised, with a herald site on neck and trunk, spreading spares the nose and cheeks, and rash usually persists from one to two days. The most characteristic feature here is a fever which lasts from two to five days, an absence of localizing signs or symptoms, and the appearance of the skin eruption that follows the critical fall in temperature. There is a leukopenia but no specific diagnostic tests.

CHICKENPOX: Usually very mild constitutional symptoms. The rash is papular, vesicular and pustular with the forehead and wrists as the herald sites, spreading to face, trunk, and extremities, and persisting from two to seven days. The lesions are pleomorphic, i.e., the individual lesions are simultaneously in different stages of evolution, and monolocular. There are no objective findings, specific laboratory or diagnostic tests.

SMALLPOX: Moderate to extremely severe constitutional symptoms. No longer epidemic since the advent of widespread vaccination.. The rash is papular, vesicular, and pustular, and persisting from four to ten days. The rash is monomorphic (lesions are simultaneously papular, vesicular, or pustular). There are no specific laboratory findings of diagnostic tests.

INFECTIOUS MONONUCLEOSIS: The constitutional symptoms range from mild to severe. The rash is macular, papular, erythematous, or vesicular with an irregular herald site, spread, and duration. Lymphadenopathy is the specific feature here. Laboratory findings show a very definite mononucleosis and a false positive Wassermann reaction. The diagnosis is made by a positive heterophile reaction.

DERMATITIS MEDICAMENTOSA: The constitutional symptoms can range from a simple discomfort to extremely grave signs. The rash can be macular, papular, vesicular, and urticarial, with an irregular herald site, spread, and duration. The only specific feature of this condition is a history of medication. The laboratory will show an eosinophilia of varying degree where an allergic reaction to the drug in question is the causative principle.

These sixteen conditions are inclusive of the more common eruptive fevers that one is likely to encounter in general practice. In summary it must be pointed out that there are multiple features that one must take into account when dealing with a skin rash associated with a febrile reaction and that judicial use of laboratory methods and specific tests will frequently make the diagnosis. It behooves all of us to take a very careful history when the patient is first seen as this will, in many cases, aid materially in the diagnosis. In some cases as in tularemia, syphilis, rat bite fever, Rocky Mountain spotted fever, and dermatitis medicamentosa, the history will be the diagnostic feature. However, as in everything, experience is our best teacher and this can only be gained through a careful history and physical and astute observation of the patient throughout the course of his illness.

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NEW DRUGS NEW DEVICES NEW DIGESTS

NEW PRODUCT: Biopar. Vitamin B_{12} plus intrinsic factor for oral use.

HOW SUPPLIED: Tablets containing 6 micrograms of B_{12} U.S.P. and 30 milligrams of intrinsic factor (Armour) per tablet, supplied in bottles containing 30 tablets each.

WHAT IT'S FOR: Biopar is the oral equivalent of parenterally administered vitamin B_{12} in the dosage range indicated. The vitamin is effective in the treatment of pernicious anemia, nutritional macrocytic anemias, tropical and non-tropical sprue, conditions affecting appetite and growth, and in relief of pain in trigeminal neuralgia, osteoporosis and other conditions. The intrinsic factor, which is essential to its absorption in pernicious anemia, is a highly purified fraction from mucosal tissue in the gastrointestinal tract.

WHO MAKES IT: The Armour Laboratories of Chicago.

§

NEW PRODUCT: Fumidil (Fumagillin, Abbott).

WHAT IT'S FOR: Fumidil is a potent, new direct-acting antibiotic specific for intestinal amebiasis. Unlike the broad spectrum antibiotics, Fumidil is directly amebacidal, has no bacterial spectrum and does not affect the normal bacterial flora of the intestinal tract. The drug is well tolerated and, at the recommended dose, side effects have been transient and rarely of such significance to justify interruption of therapy.

DOSAGE: Effective orally. Recommended dosage for the average adult is 30 to 60 mg. daily, in divided doses, three or four times a day, for 10 to 14 days.

HOW SUPPLIED: In 10-mg. capsules, bottles of 30.

WHO MAKES IT: Abbott.

§

NEW PRODUCT: Anti-Climber, a baby safety device.

WHAT IT'S FOR: Constructed of two loops of plastic joined by elastic and regulated by gripper fasteners, the anticlimber, loosely circling the baby's ankles, allows him to walk, jump, crawl, and make other movements, except climbing.

WHO MAKES IT: Baby Safety Products, 116 Sidway Street, Jackson, Miss.

§

NEW PRODUCT: Remanden, new oral penicillin.

WHAT IT'S FOR: Prolonged plasma concentrations of penicillin, two to four times the concentration conventional penicillin given orally. Desirable in pediatric field, 2 to 4 tablets per day (400,000 units).

HOW SUPPLIED: In vials of 12. $1.80 per vial.

WHO MAKES IT: Sharp and Dohme.

§

NEW PRODUCT: Neolin and Sulfa-Neolin, aqueous preparations of penicillin and combination of triple sulfonamides and aqueous suspension of penicillin.

WHAT IT'S FOR: Neolin (not yet available), may be administered for penumococcus, hemolytic streptococcus, gonococcus; meningitis, endocarditis, and bacteremias. Sulfa-Neolin is mainly indicated in urinary infections. Either preparation indicated for prophylactic treatment in tonsillectomies, tooth extractions, etc.

HOW SUPPLIED: 60 cc. packages.

WHO MAKES IT: Eli Lilly.

§

NEW PRODUCT: *Calorie Saving Recipes* featuring recipes sweetened with sucaryl instead of sugar—for weight reducers and diabetics.

WHO MAKES IT: Published by Abbott Laboratories, North Chicago, Ill.

NEW PRODUCT: Tolamine (Tablets, dillard), is a double-acting muscle relaxant that provides a more effective approach to the problem of tension. Mephenesin is a powerful muscle relaxant and the combination of homatropine and physostigmine causes a smoother transmission of the nerve impulse across the synapse. Physostigmine is also a muscle relaxant. The formula is as follows:

Mephenesin	0.5 gm.
Physostigmine Salicylate	0.5 mg.
Homatropine Methylbromide	1.2 mg.

WHAT IT'S FOR: Tolamine is used wherever there is a tension state in the patient. Such conditions as low back pain, torticollis, occipital headaches, industrial sprains, lumbar myositis, rheumatic disorders and fibrositis respond dramatically.

HOW SUPPLIED: Tolamine is supplied in bottles of 100 and 1000.

WHO MAKES IT: R. Yates Dillard and Company, 556 Madison Ave., Memphis 3, Tenn.

—§—

WHAT IT IS: Mebaral, the sedative and antiepileptic drug, is now available in a new dosage of three-quarter grain tablets. It will supplement the one-half grain, one and one-half grain and three-grain tablet packings previously supplied. The tablets, scored for division, come in bottles of 100 and 1,000.

WHAT IT DOES: Mebaral exerts a strong relaxing and antispasmodic effect, with relatively mild hypnotic action. In addition to reducing the incidence of grand mal and petit mal epileptic seizures, the drug is indicated in treatment of migraine, hyperthyroidism, anxiety states, mild psychoses, arterial hypertension, and other conditions.

WHO MAKES IT: Winthrop-Stearns, Inc.

—§—

WHAT IT IS: Tace, a new type synthetic estrogen has been accepted by the Council on Pharmacy and Chemistry in the January 3, 1953, issue of the *Journal of the American Medical Association.*

The new compound, tri-p-anisychloroethylene, was studied by Thompson and Werner who have shown that Tace is initially stored in body fat and is slowly liberated and metabolized to a highly active estrogen.

The suppression of lactation and breast engorgement appears to respond more emphatically to Tace than to other estrogens. The main differences are, higher percentage of relief from mastalgia, less withdrawal bleeding and fewer gastrointestinal disturbances.

WHO MAKES IT: Wm. S. Merrell.

—§—

NEW PRODUCT: Mebaroin is a combination of two of the best antiepileptics, mebaral (R) 90 mg. and diphenylhydantoin 60, and is often more effective and better tolerated than either drug alone or combinations of phenobarbital and diphenylhydantoin.

WHAT IT'S FOR: Controls all forms of epilepsy, grand mal, petit mal as well as its variants such as psychomotor seizures. Mabaroin is easy to take because it is virtually tasteless and acts without clouding the mental faculties of the patient.

DOSAGE: Average adult dose: 1 or 2 tablets three times daily. For children over 6 years, 2 or 3 tablets daily; younger children, ½ tablet once or twice daily. Treatment should be started with a small dose and gradually increased until the individual optimum is established.

WHO MAKES IT: Mebaroin is supplied in bottles of 100 and 1000 scored tablets by Winthrop-Stearns.

—§—

NEW PRODUCT: Mycitracin is a non-irritating and bland ointment containing the antibiotics neomycin and bacitracin.

WHAT IT'S FOR: Mycitracin is indicated in the treatment of impetigo, barber's itch, infectious eczematoid dermatitis, infected ulcers, boils and other superficial pyogenic infections of the skin. It is also recommended in the prophylaxis and treatment of secondarily infected burns and wounds.

HOW SUPPLIED: One-half ounce tubes, $1.24, one dozen tubes, $14.80.

WHO MAKES IT: The Upjohn Company.

—§—

NEW PRODUCT: Panthoderm Cream, a water miscible cream containing 2% panthenylol (the alcoholic analog of pantothenic acid).

ACTION AND USES: Emollient, protective, healing aid in diaper rash, prickly heat, rash of measles, chicken pox, etc.; for wounds, external ulcers, burns, irritated or chafed skins, certain dermatitis, sunburn. Easy to apply and wash off, stainless.

APPLICATION: Apply directly to affected area, once or twice daily.

HOW SUPPLIED: 1-oz. tubes, 2-oz. and 1-lb. jars.

WHO MAKES IT: U. S. Vitamin Corp.

Fifty Year Club Biographica

DR. CARTER CIMMIE PARNELL

(deceased)

DR. PARNELL

Carter Cimmie Parnell, son of Hilliard H. and Emily Carter Parnell, was born May 28, 1877 at Pleasant Grove, Panola County, Mississippi.

He attended Mississippi College, Clinton and later Memphis Hospital Medical College (University of Tennessee) and graduated from Missouri Medical College, St. Louis, 1899.

Doctor Parnell practiced medicine in Panola and Quitman Counties with the exception of seven years at Pace (Bolivar County), Mississippi. He devoted a great deal of his practice to maternal and child health.

He organized two rural Sunday schools and sponsored both for a number of years.

During World War II, he served as a member of the Quitman County Board of Examiners and was recognized on two occasions for his service.

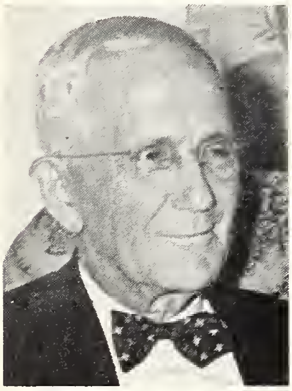
On September 1, 1948, the State Medical Association honored Doctor Parnell with lifetime membership in the Fifty Year Club.

A life of great usefulness and extreme interest in the welfare of mankind was brought to a close on May 18, 1952 when Doctor Parnell died at his home in Sledge and was buried in Bethesda Cemetery, Senatobia, Mississippi.

It has been said of Doctor Parnell that "truly his life was one of service to humanity."

§

DR. GEORGE DAVID HIGHTOWER



DR. HIGHTOWER

George David Hightower, son of Jesse and Sara Hightower, was born in Carroll County, Mississippi, on January 10, 1877.

He received his preliminary education in the public schools of Carroll County and at Iuka Normal Institute.

In 1903, he graduated from Memphis Hospital Medical College (University of Tennessee) and following this did postgraduate work at Chicago Polyclinic, Johns Hopkins University, Vanderbilt, and Tulane University Medical School.

For a number of years, Doctor Hightower served as county health officer.

Active in community life, and a participant in all worthwhile community undertakings, Doctor Hightower was honored by the citizens of Webb who designated May 22, 1952 as "Dr. Hightower Day" as a special compliment to him—one of their most beloved and useful citizens.

Doctor Hightower is a charter member and past-president of the Webb Lions Club, a devout member of the Webb Methodist Church and a 32nd degree Mason and Shriner.

In 1902, Doctor Hightower located in Webb and in the early days answered calls on horseback, then horse and buggy, and later automobile.

On May 22, 1952, as "Dr. Hightower Day" was being celebrated, the Fifty Year Club of the State Medical Association bestowed upon him lifetime membership.

Still practicing, Doctor Hightower never fails to answer an urgent call and his practice of medicine continues to be exemplary. He has received many honors and has contributed to the upbuilding of the medical profession in the state by his high ethical practice.

§

DR. JOHN WOODSON BARKSDALE

DR. BARKSDALE

On November 20, 1876, John Woodson Barksdale, son of Charles Henry and Emily Woodson Barksdale, was born in Vaiden, Mississippi.

His early education was in private school and under tutors until 1893. In 1899, he graduated from the University of Alabama and following this began practicing medicine at Birmingham, Alabama. For a year, he was instructor in surgery at the Memphis Hospital Medical College (University of Tennessee). Following this, he was president and surgeon at the Infirmary at Winona, Mississippi. In 1923, he became surgeon and chief of staff, Jackson Infirmary. He also served as visiting surgeon, Mississippi State Charity Hospital.

Doctor Barksdale has served as President of the Mississippi State Medical Association and also as President of the Tri-States Medical Society. He is a fellow of the Southern Surgical Society, charter member and Fellow of the American College of Surgeons and member of the Board of Governors (1924-1927). He is a member of the Founders Group, American Board of Surgery.

In World War I, he served as Lieutenant Colonel and Commanding Officer Base Hospital, 1918. Since 1923 he has held the rank of colonel in Medical Reserve Corps. He is ex-president of the Mississippi Reserve Officers' Association.

Doctor Barksdale is an honorary member of the West Tennessee Medical and Surgical Society and also a member of the Newcomen Society.

In 1926, Doctor Barksdale was listed in Who's Who in America.

On June 7, 1949, the Fifty Year Club of the State Medical Association bestowed lifetime membership upon Doctor Barksdale.

The numerous honors which have come to this physician are indicative of his real ability and the high esteem in which he is held by his professional associates both in the state and out of the state. His home is 1440 North State Street, Jackson. Doctor Barksdale has retired from active practice.

—————§—————

DR. SAM HOSKINS McLEAN

(deceased)

DR. McLEAN

On December 21, 1871, Sam Hoskins McLean, son of James Nicholas and Gulie Hoskins McLean, was born in Lexington, Mississippi.

He attended public school in Lexington until he was seventeen years of age and then entered Henry's College, Versailles, Woodford County, Kentucky, where he studied for two years. In 1893, he graduated from Tulane University School of Medicine and following this, did postgraduate work at Bellevue Hospital, New York City.

Doctor McLean began practicing medicine in Jackson in 1894. He also served as county health officer for Hinds County for eight years. He was the first superintendent of the Mississippi State Charity Hospital, Jackson.

In 1918, he was made a Fellow of the American College of Surgeons.

Doctor McLean served as Secretary and Executive Officer of the State Board of Health from 1908 until 1912.

On April 11, 1949, he was honored with lifetime membership in the Fifty Year Club of the State Medical Association.

An outstanding career in medicine was brought to a close on April 21, 1949, when Doctor McLean passed away in Jackson and was buried in the Greenwood Cemetery in Jackson, Mississippi. Doctor McLean made a lasting contribution to the practice of medicine in Mississippi. At all times and under all circumstances, he upheld the best tradition of medicine by his high ethical practice.

—————§—————

DR. CHARLES O'CONNER FARRAR

DR. FARRAR

Charles O'Conner Farrar was born in Itawamba County, Mississippi, September 27, 1872.

He attended public school and Oakland Normal Institute and taught school four years before entering Medical College. In 1901, he graduated from Memphis Hospital Medical College (University of Tennessee). After finishing medical school, he located at Ballardsville, Mississippi, in May 1901 and remained there until 1907 when he moved to Nettleton, where he has practiced continuously since that time.

He has served as a member of the Board of Aldermen, Trustee of public schools and is active in the Baptist Church. For many years, he served as town health officer.

In 1951, he was honored by the town of Nettleton and received the Good Citizenship Award.

On May 29, 1952, he was honored with lifetime membership in the Fifty Year Club of the State Medical Association.

For more than fifty years, Doctor Farrar has served his fellowman faithfully and well and is exceedingly proud of the title "country doctor" because he has given health and happiness to thousands. The honors bestowed upon him bespeak the gratitude of those who have known him best and loved him most throughout the years. Doctor Farrar has upheld the tradition of medicine in his daily ministerings to his fellowman.

————§————

EDWARD JONES MATHIS

DR. MATHIS

Edward Jones Mathis, son of Edward and Naome Boutwell Mathis, was born February 18, 1866 in Clarke County, Mississippi.

He graduated from Bowling Green Business College, Bowling Green, Kentucky and later attended Mobile Medical College (University of Alabama) receiving his medical degree in 1890.

Immediately after graduation from medical school, he located in Quitman where he practiced sixteen years. Later, he moved to Beaumont where he is practicing at the present time. He also practiced in Gulfport and at Enterprise.

Doctor Mathis is a member of the Methodist church, South Mississippi Medical Soicety, and also of the Woodmen of the World.

On September 11, 1948, the Fifty Year Club of the State Medical Association honored Doctor Mathis with lifetime membership in the Fifty Year Club of the Association.

Active in all community undertakings, Doctor Mathis has demonstrated over a period of many years his leadership ability. He continues to be interested in all matters relating to the practice of medicine and daily contributes to his fellowman through his example of service.

————§————

DR. LEE THOMAS FOX

DR. FOX

On a farm, near Slate Springs in Webster County, Mississippi, Lee Thomas Fox, son of Hally and Angeline Cooke Fox, was born on May 7, 1870.

He received his education in the elementary and high schools of Slate Springs and later attended A. and M. College and entered Louisville Medical College in September 1889 and received his M. D. degree from that institution in 1891. He began practicing medicine in Houston this same year. He was awarded a medal for proficiency in Physiology by the Louisville Medical College. On October 4, 1947, he received a Certificate of Award from the Louisville Medical College in recognition of fifty years of service.

Doctor Fox served as county health officer of Yalobusha County for two years. He also served as Secretary of the State Medical Association for a year.

On October 5, 1948, the State Medical Association honored Doctor Fox with lifetime membership in the Fifty Year Club.

For many, many years, Doctor Fox has given unstintingly of his time to relieving the ills of mankind and has served his community and the profession with real nobility of purpose. His fifty years of medical practice stands as a constant reminder of the contribution he has already made to health and welfare and he continues to be interested in medical progress. His home is in Canton, Madison County. His friends are legion.

————§————

WILLIAM JEFFERSON ANDERSON
(deceased)

DR. ANDERSON

William Jefferson Anderson, son of Samuel and Eliza McElroy Anderson, was born in Lauderdale County, March 2, 1872.

He received his medical education at Memphis Hospital Medical College (University of Tennessee) and Tulane University, New Orleans. He graduated from Tulane University in 1902.

Doctor Anderson founded Anderson's Infirmary in 1928 and the institution was operated during his lifetime and continues to be operated as a nonprofit institution by the Board of Trustees.

He was a Mason, member of the Baptist Church and also a member of the Rotary Club and the American Academy of General Practice.

On December 16, 1948, the Fifty Year Club of the State Medical Association honored Doctor

A life of great usefulness to his fellowman was

Anderson with lifetime membership.

brought to a close on December 19, 1951 when Doctor Anderson passed away in Meridian and was buried in Magnolia Cemetery.

Ever alert to opportunities for rendering service to humanity, Doctor Anderson served faithfully and well and was respected by all.

The Academy of General Practice

A NEW VITAL FORCE IN MEDICINE

GUEST EDITORIAL

DR. FELIX J. UNDERWOOD
State Health Officer — Jackson, Miss.

THE OVER-EMPHASIS on the special fields in the practice of medicine has been decried many times and in many places. This negative reaction is often quite understandable. Extreme specialization has invaded not only the practice of medicine, but has actively molded the teaching of medicine, and its subtle influence has affected the careers of a whole generation of young physicians.

As long as the influences against this trend were merely "against something," little progress was made. The light of a better day is now breaking over the horizon, however, in the form of a movement that is not against anything but is certainly for the promotion of general practice and general practitioners.

Five years ago, the American Academy of General Practice was established. Its stated purpose is to "promote and maintain high standards of general practice of medicine and surgery—." Thus is brought into being a positive force for the encouragement of this type of practice. This positive approach has already effected progress far beyond the expectation of its most sanguine supporters.

Through the use of calipers on the map of Mississippi, it may be seen, perhaps surprisingly, that there are only three small areas of the state that are more than ten miles from a physician's office.

Many factors have combined to bring about this result. Among these is the hospital building program. The fact that local physicians are eligible as staff members in the hospitals constructed under this program has helped influence many of these young physicians to enter general practice in a rural community.

The Medical Education Board's "revolving fund," which provides a part of the money necessary for a Mississippi boy or girl to complete medical training, has also contributed substantially to this improved record of distribution. It is the policy of the members of this board that no worthy Mississippi boy or girl, with good medical school grades, shall be allowed to drop out of medical school solely because of financial need.

The Academy of General Practice has also been instrumental in bringing about changes in the curriculum of several of the leading medical schools. Undergraduate didactic courses in general practice have been included. Outpatient services and postgraduate residencies at the teaching hospitals now have general practice sections on the same basis as dermatology, medicine, ear, nose, and throat, and the other established special fields of teaching.

The specialties are necessary for teaching purposes as well as for the selected cases requiring a specialist's care. But the work of supplying medical service to the vast majority of people is definitely in the field of general practice and will always remain so. The trend back toward general practice is a sound one and, as such, is bound to continue.

Although the distribution of physicians over the state of Mississippi has already shown considerable improvement, the following figures must not be ignored: We have at this time approximately 1,500 physicians in Mississippi, 100 of whom are "board-rated specialists." Thirty-six per cent of our physicians live in the rural areas (places with less than 2,500 population), where 73 per cent of the people of this state live. This means that there are about 2,680 people for each rural physician and about 650 people for each physician in the cities. Of the physicians in the rural areas, 163 are under 40 years of age and 298 over 60 years of age. It is evident that there are plenty of opportunities for younger physicians in our rural areas and that they should also have the very best training available as general practitioners.

————§————

MISSISSIPPI STATE MEDICAL ASSOCIATION
Eighty-fifth Annual Meeting
Biloxi - May 12, 13, 14, 1953

The Mississippi Doctor

The journal with a vision which encourages a plan of delivering modern medicine to the masses at less cost to the individual and more profit to the practitioner. It champions the community hospital, the hub around which this service must be built.

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Editorials

PREPARE FOR STATE MEETING

We now look forward to our state meeting at the Buena Vista Hotel in Biloxi. This comes the second week in May. Mark your calendar. The state meeting is of the greatest importance. A fine group of doctors on the Coast, the medical atmosphere and a wonderful meeting place make this an ideal meeting. The Mississippi Coast play ground, sea breezes, the birds and the flowers beckon. The cosmopolitan atmosphere broadens the mental horizon. We are sure that we shall have a fine scientific program as well as the usual good fellowship. The mixing and mingling with our fellow doctors is very valuable. We can not afford to miss the state meeting.

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The Fifty-Year Club will receive special attention at the state meeting in May. No set of men deserve to be honored more than they. They have served long and well. Last year Drs. Avent and Caldwell gave the banquet for the club. This year Drs. Philpot and Avent have generously offered to be hosts. We hope each member will think of the meeting and plan to go if at all possible. You will note that a brief biography of the Fifty-Year men is appearing continuously in the journal. Dr. Felix J. Underwood and his able assistants are preparing these biographies. We thank Dr. Underwood for this labor of love, and rejoice that we may help you know more of this noble band.

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Last July the Council of State Chambers of Commerce instituted a study of wages paid for federal service in comparison with local government and private industry. The study conclusively showed that the federal government is extremely liberal based on the dollar amounts paid, even without counting the many other benefits previously outlined. On job titles where comparable work was performed such as accountant, junior accountant, secretary, stenographer, typist, etc., it was found that in every case the government paid more than industry for the same work, running from a few dollars to almost $1,800 per year.

A Civil Service circular called "Working for the U. S. A." frankly boasts that, at least in the lower grades, "salaries are the equal of, or higher than, pay for similar work in private industry."

The Civil Service Commission advises that with the exception of a few technical positions and good stenographers, there is no dearth of candidates for federal jobs. Why should there be? Uncle Sam is a soft touch!

§

Our four-year medical school is now just around the corner. Every citizen we trust will feel proud of this accomplishment. Jackson is rapidly developing a medical atmosphere and we foresee a great medical center along with the four-year medical school.

The medical school and the teaching hospital will be housed under one roof. Later affiliated facilities will be added. It would be desirable to have the State Health Department on this ground, a home for the state medical association with a permanent library, and the VA hospital if it is to remain in Jackson.

Mississippi has been fortunate in having governors who have been interested in medical progress. No one has been more interested than Governor White right now. We acknowledge the interest and activity of Senators Stennis and Taft in extending the Hill-Burton bill for five years so that it may complete the great hospital service set forth in the beginning. If their bill goes through we are very sure that no other state will have a finer system of hospitals than our own beloved state.

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The Mid-South Medical Assembly held a most successful session last month. Visiting essayists paid tribute to the effectiveness of this type of assembly. There are many now, but none yet that surpasses the Mid-South in service to the doctors of this area. The *Journal* is happy to announce an excellent group of papers for publication in forthcoming issues. We acknowledge appreciation to the doctors of Memphis for the fine papers for the February issue.

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The Children's Clinic in Jackson announces the association of another doctor to its staff, Dr. Howard Nichols. He is a graduate of Vanderbilt University and has had one year as intern and two years as resident in pediatrics at the Children's Hospital in Boston. He has also had pediatric service in the Children's Hospital at Vanderbilt.

The founder of the Children's Clinic is Dr. Harvey Garrison, Sr., whom we have often called the father of pediatrics in our state, because he has done so much for this specialty. We have many other good men in Mississippi in this field, encouraged by Dr. Garrison. We congratulate him on his efforts to bring to the children of our state and to the pediatric field outstanding medical service.

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ABSTRACT FROM PEDIATRIC LITERATURE

Harvey F. Garrison, M.D.

Aqueous Dispersions of Vitamin A and D in Premature Infants: Studies with Reference to Rickets and Retrolental Fibroplasia. Benjamin Kramer, Samuel M. Gordon, Henry M. Berger and Albert E. Sobet, Brooklyn, N. Y.; A. M. A. Am. J. Dis. Child. 82:17-27, July, 1951.

The management of premature infants who received vitamin A and D supplements in aqueous dispersion was compared with that of premature infants who received vitamins A and D in oily solution. Special attention was paid to rickets and retrolental fibroplasia.

In the dosages employed, both aqueous and oily vitamin D preparations prevented clinical and roentgenologic manifestations of rickets. The possibility of better results with aqueous dispersion of vitamin D is indicated by the higher serum calcium and products of calcium and phosphorus (Ca x P products.) Due to the present lack of a simple vitamin D method, there is no direct evidence to indicate that vitamin D in aqueous dispersion is better absorbed. However, since vitamins A and E are better absorbed from aqueous dispersions in the premature, it is likely that aqueous "D" is also better absorbed.

There was no increase in the incidence of retrolental fibroplasia during the period 1946 to 1949, when vitamin A was given in aqueous dispersion, compared with the incidence of this disease when vitamin A was given in oil. The mothers of all five of the infants with retrolental fibroplasia had gestation periods of 32 weeks or less. All but one infant weighed less than 3 pounds at birth. Because of the extremely low total number of cases of retrolental fibroplasia, no other conclusion can be drawn.

COMMENT:

This article is quite interesting and brings out several points which are considered of value now in the prevention of rickets and retrolental fibroplasia. It is our practice now and has been for quite some time to use aqueous solutions in practically all cases, at least for a time, and we frequently add the oil solutions when indicated.

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Meridian, Mississippi

DR. R. B. CALDWELL, PRESIDENT-ELECT, MID-SOUTH MEDICAL ASSEMBLY

Dr. R. B. Caldwell

The Mid-South Medical Assembly concluded a fine session in February, Dr. H. T. Smith of McGehee, Arkansas, turning the gavel to Dr. L. S. Nease of Newport, Tenn., who was installed as president. Dr. R. B. Caldwell of Baldwyn, Miss., was chosen as president-elect, and Dr. Thurman Crawford of Memphis was continued as secretary. New vice-presidents are Drs. N. L. Hyatt, Covington, Tenn.; F. S. Dozier, Marianna, Ark.; and George A. Brown, Water Valley, Miss.

Dr. R. B. Caldwell is a native of Union County, Miss. He received his medical education and interned in Memphis. His parents the late Dick Caldwell and Mary Sims Caldwell, both natives of South Carolina, settled in north Mississippi shortly after the Civil War. Mrs. Caldwell was before her marriage Miss Grace Evans, typefying Southern womanhood in culture, refinement, cordiality and kindness at its best.

The Caldwells have two sons, Drs. Eugene and Mike Caldwell, both practicing with their father in Baldwyn where they own and operate the Caldwell Memorial Hospital.

Dr. Caldwell, in addition to maintaining a large general practice in surgery and medicine, has been very active in organized medicine. He has served as councilor and president of the Mississippi State Medical Association. He is now president of the Mississippi State Board of Health and a member of the board of trustees of mental institutions. His other memberships include the Academy of General Practice, the Southeastern Surgical Congress, the Southern, and the American Medical Associations. He has served many years as local surgeon for the G. M. & O. Railroad.

A colonel on Governor White's staff, Dr. Caldwell was one to favor the per capita distribution of funds for the indigent sick which has served Mississippi so well. He introduced the first resolution in the house of delegates of the state medical association favoring the establishment of a four-year medical school. He is now very much interested in a system for Mississippi that will give our state more and better trained nurses.

Dr. Caldwell well deserves this outstanding honor that has come to him as president of the Mid-South Medical Assembly.

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BLOOD BANK FOR HATTIESBURG

One of the most modern and complete blood banks in Mississippi was opened in Hattiesburg during February. The bank is located in a two-room suite in Methodist Hospital in the Hub City and is a project of the Hattiesburg Clinical Society.

In an effort to solve the local blood problem, Forrest County physicians who make up the Clinical Society, an unofficial group within the local medical society, first made a comprehensive study of needs in the area with regard to blook bank service. Serving all Hattiesburg hospitals and the area immediately adjacent to the city, the bank is located in completely redesigned and renovated quarters in Methodist Hospital.

The physician-director of the blood bank is Dr. Francis Conn. Miss Dorothy Breland, formerly medical technician at Methodist Hospital, is the bank's staff technician.

Organized as a separate, non-profit community service entity, the blood bank has its own officers and directors, who are elected by the sponsoring society. These are Drs. J. P. Culpepper, Jr., president; T. E. Ross, vice-president; Francis Conn, secretary-treasurer; Grady Cook, C. C. Hightower, P. E. Smith, and E. W. Green, directors.

The bank was equipped at an expense of about $7,000, funds for which were borrowed locally and guaranteed by the Clinical Society. When the initial cost has been repaid, the only charges for service will be based on actual operating expenses of the blood bank. The hospital is furnishing office and laboratory space without charge.

Blood is furnished patients on the customary two-for-one replacement basis for the first pint and one-for-one replacement basis for all above. Where the patient must purchase blood, the standard charge of $25.00 will prevail.

Modern storage equipment for the blood, complete with automatic temperature controls and classification compartments, has been installed to handle eighty pints of blood at one time. Specially designed built-in laboratory tables and cabinets, together with necessary typing equipment and modern office furniture, complete the laboratory portion of the bank. A combination reception room and space for drawing blood has been provided; two donors may be handled simultaneously.

Furthering an excellent medical public relations program, the local physicians have received favorable and widespread comment through the press and radio on the project. Initial public response to civilian needs for blood has been favorable.

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COUNCIL ENDORSES RED CROSS GAMMA GLOBULIN PROGRAM

The Executive Committee of the Council, Mississippi State Medical Association, has received and considered a comprehensive plan from the American National Red Cross in connection with the taking of blood for processing into gamma globulin. The purpose of this program is to provide 1,200,000 units of gamma globulin for use in mitigating or preventing paralysis in poliomyelitis.

The Executive Committee has further considered the fact that there is apparent value in this type of immunization as shown by the research and studies of William McD. Hammon, M.D., and his associates. It is realized that without the collection of additional blood, the present supply of gamma globulin is scarcely sufficient for use in measles and infectious hepatitis.

It is therefore ordered by the Council through the Executive Committee that the program as outlined by the American National Red Cross is endorsed in principle but no endorsement is implied or given as to the efficacy of gamma globulin when used in connection with poliomyelitis.

The American Red Cross has been asked by the U. S. Office of Defense Mobilization to take blood for gamma globulin to be used in the prophylactic treatment of paralytic polio in epidemics. Physicians are familiar with the studies and report of William McD. Hammon, M.D., and his group in determining the value of gamma globulin as a means of mitigating or preventing paralysis when given shortly before or after exposure to polio. Although the immunity conferred is passive and lasts only a few weeks, it apparently is a very effective and worthwhile procedure.

The Red Cross is now and has been for some time collecting blood or plasma to be used in the treatment of battle casualties, in military hospitals, and in the prophylaxis of measles, and infectious hepatitis. The Red Cross has agreed to assume the responsibility of collecting and processing the additional amount of blood needed for 1,200,000 units of gamma globulin. It will not, however, distribute gamma globulin; the agency for distribution will be selected by the Office of Defense Mobilization through the National Research Council.

The endorsement and support of the Mississippi doctors is vital for the successful operation of this plan. It is hoped that all physicians in Mississippi will lend their aid.

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COUNCIL APPROVES CONSOLIDATION

The respective membersips of the Amite County Medical Society and the Wilkinson County Medical Society have met jointly and unanimously agreed in consolidating the two societies. It is felt by the physicians in these two counties that the larger society would afford greater advantage for meetings, presentation of scientific papers, and fellowship among the medical community in that area.

The Council, through the Executive Committee, has received a petition from these groups which offers the surrender of the individual charters of the two societies in question and further petitions that the groups be combined to form the Amite-Wilkinson County Medical Society.

It is therefore ordered by the Council through the Executive Committee that in consideration of the petition, the Amite County Medical Society and the Wilkinson County Medical Society are dissolved, effective December 31, 1952, and that the Amite-Wilkinson County Medical Society is chartered and formally brought into existence effective January 1, 1953. No member of either of the two dissolved societies shall suffer any penalty as a result of this consolidation, and the newly chartered society is hereby accepted as and made a component part of the Mississippi State Medical Association.

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COSMIC RADIATION RESEARCH

An upper air research project, in which fruit flies will be used to obtain data on the effects of cosmic radiation at very high altitudes, is announced by the United States Air Force.

This research will be carried out as an additional phase of the Air Research and Development Command's previously-announced balloon research project, which seeks data on the state of winds, temperatures, atmospheric pressures, turbulence, and types of cloud formations at altitudes between 50,000 to 100,000 feet.

Controlled balloons launched from West Coast sites will carry, in addition to their recording instruments, pressurized test tubes containing harmless fruit flies (drossophilia), similar to those sometimes seen on bananas. The balloons will be launched when the prevailing winds are from the west, so that they will travel over and come down in the United States.

The research balloons, which are from 45 to 110 feet in diameter, have been sent aloft by the Air Force since June, 1951. They are tracked by ground direction-finding stations throughout their flights. When the balloons descend to 30,000 feet they are automatically destroyed and the recording equipment is parachuted to the ground.

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RECOMMEND TERRAMYCIN

New evidence that germs are learning to live with the antibiotics, penicillin and streptomycin, has been found by two French doctors who treated a series of 80 cases of gonorrhea and reported their findings in the French medical journal, *L'Hopital.* However, the doctors reported that they did not encounter any cases of the disease which were resistant to terramycin.

Because of the number of gonorrhea victims who were not benefited by penicillin or streptomycin, the doctors recommend the use of terramycin in this disease as "the most efficacious in gonococcal infections." Penicillin has been the most widely used remedy for gonorrhea in the past. Some physicians, however, have preferred the greater convenience of oral dosage with a broad-range antibiotic.

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TENNESSEE VALLEY MEDICAL ASSEMBLY

The Tennessee Valley Medical Assembly will be held in Chattanooga, Tenn., on September 28 and 29, 1953, Dr. W. G. Stephenson, 612 Medical Arts Bldg., Chattanooga 3, Tenn., president.

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LEGION COMMENDS DOCTORS

Of interest to Mississippi physicians is the resolution adopted by the mid-winter conference of the American Legion of Mississippi, held January 24. This resolution publicly commends the physicians of Mississippi for their great service. That the American Legion is probably the largest organization in the state, having 30,000 members and more than 200 posts or local organizations, adds significance to the resolution and points up much good will toward organized medicine.

Resolution

Whereas, The American Legion was founded on the great principle of service to the disabled veteran and his widow and orphan, and

Whereas, the great service that this organization has rendered and is rendering was and is made possible through the unselfish, generous giving of time, effort and personal service by its members and also individuals and organizations who are not members; and

Whereas, the doctors of Mississippi, throughout the years since the Legion was founded in 1919, have rendered the same unselfish service to our disabled and their dependents; and,

Whereas, many of these doctors are members of the American Legion; and,

Whereas, The American Legion, Department of Mississippi, recognizes the great services that the doctors render; and,

Whereas, The American Legion, Department of Mississippi, wishes to express publicly to these doctors and to the Mississippi Medical Association its deep appreciation and thanks; now, therefore, be it

Resolved, that the American Legion, Department of Mississippi, in Mid-Winter Conference assembled, this 24th day of January, 1953, in Jackson, Mississippi, does hereby commend and thank each and every doctor in the state; and, be it further

Resolved, that copies of this resolution be forwarded to the President of the Mississippi Medical Association and to each paper in the state of Mississippi, and that this resolution be made a part of the official records of this conference.

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AMERICAN GOITER ASSOCIATION

The 1953 meeting of the American Goiter Association will be held in the Drake Hotel, Chicago, Illinois, May 7, 8, and 9, 1953.

The program for the three-day meeting will consist of papers and discussions dealing with goiter and other diseases of the thyroid glands.

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CURRENT AMA POLICY ON DOCTOR DRAFT LEGISLATION

Representatives of the American Medical Association met in Washington last month to review the new "doctor draft" bill which the Department of Defense will present to Congress. The AMA policy and position on any extension or revision of the law was presented to the Department of Defense and is incorporated in the following points:

1) Any proposed legislation should specifically extend the primary obligation of physicians now classified in priorities 1 and 2 who are not called into service before July 1, 1953.

2) An amendment should be suggested to the

basic Selective Service Act which would obligate physicians covered by the basic Act for military service without permitting deferments because of dependency or marital status.

3) The Association should advocate adoption of legislation to provide for the recognition of military service since Sept. 1, 1939, with countries which were allies of the US.

4) The present maximum age—registration, age 50; obligation to serve, age 51—should be preserved.

5) The present law should be amended to require registration of physicians, under age 50, who do not have reserve commissions in the armed services medical corps.

6) Physicians who have not served since Sept. 16, 1940, should be called according to age—youngest men first—after physicians currently classified in priorities 1 and 2 have been called up or deferred for reasons of essentiality or physical disability.

7) Physicians with military service since Sept. 16, 1940, should be called according to past service—those with the least amount of service first—after physicians currently classified in priorities 1, 2 and 3 are called up or deferred for reasons of essentiality or physical disability.

8) No distinction should be made between service in World War II and service since June, 1950.

9) The present concept of deferring physicians regardless of their priority classification if they are essential to the national health, safety, or interest should be continued .

10) Legislative authority to establish national and state medical advisory committees to the Selective Service System should be continued.

11) Any extension of the doctor draft law should be limited to one year.

12) In an effort to insure a more equitable utilization of medical manpower by the armed services, the Association recommends the establishment of a new position as Assistant Secretary of Defense for Health Affairs. It appears that the proper way to provide for this would be by an amendment to the National Security Act of 1947, as amended.

It was also recommended that a lesser period of service be established for those physicians who had at least 12 months of prior military duty since Sept. 16, 1940.

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DEATHS

DR. J. S. GUNN

After a short illness, Dr. J. S. Gunn, 71, well known physician of Pachuta, died January 2 at Watkins Memorial Hospital in Quitman.

Dr. Gunn opened his office for the practice of medicine in Pachuta in 1902 and has followed his profession since that time. He was graduated in 1902 from the Memphis Hospital Medical College.

He is survived by wife, Mrs. Verna Gordon Gunn; daughter, Mrs. A. N. Deveraux, Lake Charles, La., son, Jack G. Gunn, Pachuta, sister, Mrs. S. F. Riley, Houston, Texas, and five grandchildren.

Services were held at the Pachuta Methodist Church, with the Rev. H. H. Youngblood officiating. Burial was in Pachuta Cemetery.

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DR. CLAUDE YATES

Services were conducted January 21 from the Philadelphia Baptist Church for Dr. Claude Yates, prominent Neshoba County physician and owner of the Yates Hospital, who died at the Baptist Hospital in Memphis, January 19. He was 69.

Dr. Yates had been a patient at the Memphis hospital for the past ten days. A lifelong Mississippian, Dr. Yates had spent his entire medical career in Neshoba County. He was a member of the Baptist church.

He leaves his wife, Mrs. Audie Harrison Yates; three sons, Dr. C. Frank Yates of Memphis, and Kenneth Yates and Cecil Yates, both of Philadelphia; a daughter, Miss Helen Yates of Meridian, Miss.; three brothers, Dr. R. B. Yates of Greenwood, Miss.; and Dr. Guy W. Yates and Earl C. Yates of Philadelphia, and two sisters, Mrs. Bill Pearce of Greenwood and Miss Georgia Yates of Philadelphia.

Dr. Yates was educated at the Memphis Hospital Medical College, Memphis, Tenn., graduating in 1912.

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DR. H. P. BOSWELL, SR.

Dr. Hugh Priddy Boswell, Sr., one of the founders of New Albany Hospital and head of the institution for a number of years, an outstanding physician and surgeon of northeast Mississippi, died quietly in his sleep early January 19 at his home after a brief illness with his death attributed to a heart attack. He had been in ill health for the past several years but had continued a limited practice.

Dr. Boswell, who was 65, was born and reared in Kosciusko and attended the University of Mississippi School of Medicine and was graduated from Tulane University School of Medicine in 1912, following which he entered the practice of medicine at Goodhope in Leake County for a short time and then became resident physician at the State Penitentiary at Parchman before locating at New Albany in 1913.

He served in the Army Medical Corps during World War I as a captain and was a member of the American Legion, a former Union County Health Officer, a former member of the Board of Trustees of New Albany Separate School District; and was a steward in the First Methodist Church of New Albany until his resignation last year because of ill health. Also he was a Mason and was one of the founders of the New Albany Hospital in 1928.

He leaves his wife, Mrs. Ruth Baker Boswell, two sons, Dr. H. P. Boswell, Jr., and Thomas T. Boswell of Forest; a sister, Miss Betty May Boswell of Stockton, Calif.; and one grandchild.

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DR. LONNEY POLK

Dr. Lonney Polk, 82, of Purvis, Miss., died at Whitfield late February 19, after a long illness.

He was a native of Oakvale, Miss., but had been a resident of Purvis since 1902. He was a member of the Purvis Baptist Church.

He was a physician and surgeon and past vice-president of the Mississippi Medical Association. He was a Mason. Dr. Polk received his degree in medicine from the Memphis Hospital Medical College, Memphis, in 1902.

He is survived by his wife, Mrs. Caroline P. Polk of Purvis, one son, Dr. Earle V. Polk of Senatobia, one daughter, Miss Eleanor Grace Polk of Clinton and teacher in the Pensacola High School, Pensacola, Fla., two granddaughters, Mrs. Robert Haun of London, England, and Mrs. T. H. Pendleton of Springfield, Ky.

Interment was made in the Purvis cemetery with Masonic rites at the graveside.

Woman's Auxiliary

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MRS. EUSDEN ADDRESSES AMA HOUSE OF DELEGATES

The Woman's Auxiliary to the American Medical Association was pleased and honored to have had the president, Mrs. Ralph Eusden of Long Beach, California, invited to address the A.M.A. House of Delegates Interim Session meeting in Denver last December. Excerpts from her address follow:

The Auxiliary has grown where today we hold an enviable national position in our recognition by others. Invitations are received requesting the national Auxiliary for guest representation at annual meetings of the American Cancer Society, National Foundation for Infantile Paralysis, National Advisory Committee on Health Security, Advisory Committee on Woman's Activities, Federal Civil Defense, National Mental Health, President's Highway Safety Council, and White House Conference.

"For a blade of grass to grow all nature must cooperate," and your Auxiliary has but one purpose: to assist you in making this "a better world working for health, safety, peace. Through progressive inventions, radio, television, and air travel local level becomes the world level and never again can we think ourselves sufficient unto ourselves; therefore, the national auxiliary president chose as a theme for the year, "our goal: a better world." Our highest honor is to be the wife of a physician who ministers to the suffering the sorrowful, and troubled. Hippocrates said, "where there is love for humanity, there is also love for the art of medicine." From the four signers of the Declaration of Independence to our time, the doctor of medicine has served his country, and he lives the life of his community and the people he serves, and with the honor of sharing his life comes the privilege of membership in the Woman's Auxiliary to the American Medical Association.

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YOU AND I MUST LIVE PUBLIC RELATIONS

We are doctors' wives and to be good doctors' wives we will have to work at it. We will improve our public relations when we improve ourselves. Some of us were teachers, some nurses or secretaries, but as individuals the only thing we have in common is that we are married to doctors. Therefore, we must prepare ourselves for the stand that society expects of us.

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HIGH SCHOOL ESSAY CONTEST OPENED JAN. 1

The Annual Essay Contest for high school students, will be sponsored again this year. Students may submit essays any time between those dates to their principal, on the topic, "Why the Private Practice of Medicine Furnishes This Country with the Finest Medical Care." Small packaged libraries with bibliography for use in the contest may be furnished each high school.

Combination of Drugs in the Treatment of Essential Hypertension*

ROBERT W. WILKINS, M. D.†
Boston, Mass.

INTRODUCTION

With increasing experience by a number of different workers it has become apparent that no one pharmaceutical agent presently available is wholly satisfactory for the treatment of a majority of patients with essential hypertension. While disappointing, this fact has naturally led to a trial of combinations of drugs, with generally more encouraging results. Combination treatment has at least three possible advantages:

1. It should allow control of the blood pressure in a greater number of patients.

2. It should allow the use of the time-honored pharmacological principle of synergistic (or at least of additive) effects under which the desirable action is increased, and the undesirable side effects are reduced. The latter result may be achieved not only by decreasing the necessary dosage of any single hypotensive agent, but also by opposing two antagonistic side actions of two different agents, for example, one causing tachycardia, the other bradycardia.

3. It should allow light to be thrown on the various hypertensive mechanisms involved in different patients through a therapeutic trial of agents having different modes of action.

For these reasons we have continued to explore the use of various combinations of drugs in hypertensive patients.

EXAMPLES OF HYPOTENSIVE AGENTS

A drug to be suitable for continuous treatment of a chronic disease like hypertension should have the following characteristics:

1. It should be safe.
2. It should be effective.
3. It should be simple to take.
4. It should not upset the patient.

There are many single hypotensive agents which fail to satisfy all these requirements. For example the ganglionic blocking agents, such as hemamethonium, are the most powerful of all in their ability to lower blood pressure, but by virtue of this very fact, are not entirely safe, even under hospital conditions. Furthermore, they are not simple to take because they vary widely in dosage, are poorly absorbed on oral administration and cause a rapid development of tolerance by the patient. In addition, they often upset the patient by their serious side effects such as postural hypotension, or bowel, bladder, or visual dysfunction. Finally they demand constant supervision, such as frequent blood pressure measurement, as before each dose, which may dominate the patient's life, and harass the physician's.

The veratrum derivatives, second only to the methonium compounds as powerful hypotensive drugs, especially on acute parenteral administration, are fully active by mouth although their dosage is quite critical. They are safe and do not require as close supervision as the blocking agents. However, they can cause nausea and vomiting at a dosage level uncomfortably close to their therapeutic range, and therefore on chronic usage usually result in occasional vomiting attacks. This makes them disappointing for long term administration.

Hydrazinophthalazine or hydralazine* (Apresoline) is a central adrenergic blocking agent, and is readily absorbed by mouth. It may cause severe headaches, tachycardia, and dependent edema which tend to lessen somewhat on chronic administration of the drug. On long-term usage it may be expected to cause some lowering in blood pressure (particularly diastolic) in about half the hypertensive patients in which it is tried. However, its cardiac effects, particularly tachycardia, and in occasional cases (perhaps related to the tachycardia) anginal pain, may be so distressing to the patient that it may have to be discontinued.

Rauwolfia as "serpina"** is an interesting sedative-like drug which also causes moderate hypotension, bradycardia, nasal stuffiness, and a tendency to gain weight. All its effects are mild and slow to appear and disappear. Its relaxing action may in part be responsible for the marked symptomatic relief it affords, especially in anxious, neurotic, hypertensive patients. However, in severe fixed hypertensive patients it is disappointing as a single agent for lowering the blood pressure.

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* Presented at the Mid-South Postgraduate Medical Assembly, Memphis, Tennessee, February 10, 1953.

† Associate professor of medicine, Boston University School of Medicine; physician and member, Evans Memorial, Massachusetts Memorial Hospitals.

† From the Robert Dawson Evans Memorial, Massachusetts Memorial Hospitals, and the Department of Medicine, Boston University School of Medicine. Supported in part by a grant from the Squibb Institute for Medical Research, New York City.

Recently we have had the opportunity to observe in hypertensive patients the effects of a pure alkaloid derived from Rauwolfia, namely Reserpin,* said to be the sedative portion of the drug[1]. While our experience has been limited to 30 patients and for just over three months, we can say that Reserpin appears to produce all of the actions of crude Rauwolfia including sedative, bradycardia, hypotension, and nasal congestion. On oral administration it also has the same slowness of action, requiring from three to six days to become active, three to six weeks to reach maximum effect, and three to fourteen days to pass off. Whether its several actions are relatively the same quantitatively as with crude Rauwolfia is difficult to say. Sedation and nasal stuffiness appear somewhat more prominent, and hypotension possibly less so than with equivalent doses of crude drug. At any rate it is a most interesting preparation.

COMBINATION OF DRUGS

While treatment of hypertension by a single agent of the types just described has been found in many individual cases to afford considerable relief both objectively and subjectively, it has in general left considerable to be desired as a long-term regimen. Frequently the addition of another agent has resulted in further reduction of pressure, often with less side effects than before (sometimes apparently because the dosage of the first drug could be reduced). Thus patients maintained on oral veratrum for many months with moderately satisfactory results (except for occasional emetic attacks) could be regulated better (and without nausea) upon addition of Rauwolfia to the schedule. The same experience has occurred with hydralazine, namely that upon addition of Rauwolfia the pressure has shown a further reduction and the symptoms of tachycardia or headache have disappeared. The reverse has also occurred, that is, the addition of veratrum or hydralazine to Rauwolfia treatment has given increased hypotension with little or no increase in symptoms (Rauwolfia produces so few symptoms that the addition of another agent could not be expected to relieve its symptoms).

Finally, the addition of a third agent to a regimen of two drugs has upon occasion brought the pressure down in a symptom-free manner that no combination of two drugs would produce. Whether this represents merely the additive effects of several non-specific hypotensive agents, or actually denotes that hypertension may be maintained through several distinct mechanisms, is not clear. Nevertheless it does give food for thought based upon the clinical impressions gained in the course of such therapy. For example, a rapid pulse rate may be a favorable sign prior to treatment (especially with Rauwolfia) but its persistence on treatment is almost always an indication that therapy is inadequate to bring the pressure down.

Inasmuch as we now have a number of hypotensive agents available for trial we are under no great necessity to restrict ourselves to any one drug or combination of drugs, especially in view of the fact that the rationale for such treatment is little more than empirical anyway. Furthermore, we may, except in the most desperate (malignant) of cases, proceed cautiously and deliberately, bearing in mind that essential hypertension is a chronic disease running on the average a twenty-year course. With these thoughts in mind we have used the methonium compounds only in the severest cases, and in them only after a trial of other less violently active agents has proved to be of no avail. The best evidence would indicate that the methonium compounds are, if anything, more dangerous when combined with other hypotensive drugs than when given alone, that they should never be instituted outside a hospital, and never be continued except under closest supervision with frequent checks of blood pressure at least several times daily.

Contrary to the experience of some, but in accord with others, we have found it unsafe to use methonium by mouth. Therefore, we have in exceptional cases, in which no other combination has been effective, used hexamethonium subcutaneously in combination with hydralazine. The management of one such case requires more attention and engenders more physician-anxiety than the care of twenty patients on the other less active drugs. For these several reasons, and because we have had two instances of apparent myocardial infarction during a marked hypotensive response to methonium (interestingly with no pain in either) we cannot recommend the use of this drug except for special hospital, not for general, practice.

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* Ciba Pharmaceutical Products, Incorporated, Summit, New Jersey.

** Manufactured by the Himalaya Drug Company, Bombay, India; obtained through the courtesy of E. R. Squibb and Sons, New York City.

Hydralazine in combination with Rauwolfia and with (or without) veratrum is well tolerated, especially if instituted gradually. Hydralazine has a chemical structure that suggests it may suppress the bone marrow, and we know of one instance of pancytopenia following the use of this drug. It also may produce an anginal state resembling status anginosus (with electrocardiographic changes of myocardial ischemia). Aching substernal pain appearing or worsening on this drug is an indication for its discontinuation. Fortunately such occurrences are rare, and seem partly due to the tachycardia, since if this is controlled by Rauwolfia the complaint may disappear.

PLAN OF TREATMENT

Our usual initial procedure in a patient with only moderately severe hypertension, especially with tachycardia and anxiety, is to prescribe Rauwolfia, one tablet of Serpina (125 mg. of crude root) once or twice a day. This is because Rauwolfia is the mildest of the hypotensive drugs, and in our experience the most relieving of symptoms. Frequently this regimen alone will suffice to control the pressure at normal, or near normal, levels and to abolish symptoms of headache, dizziness, palpitation, nervousness, "butterflies in the tummy," etc. We may see the patient again in a week or a month as the circumstances permit. We warn the patient only to reduce the dosage of Rauwolfia in half if he should become too sleepy. The dosage should not be raised above four tablets a day.

In severe cases, or in patients in whom this treatment does not suffice, we may add to the Rauwolfia regimen, hydralazine, 10 mg. (or 12.5 mg.) four times a day (at meals and at bedtime) increasing the dosage gradually to 25 mg., or even to 50 mg. four times a day. We warn the patient to reduce (not discontinue) the dosage if the symptoms of headache and/or palpitation are distressing, but to resume a gradually increasing dosage as rapidly as possible. We like to see the patient again in one week, but if this is impossible we let him return after two to four weeks, at which time, depending on the results, we may increase the dosage (gradually to 100 mg. four times a day). It is our impression that dosages of hydralazine above 800 mg., and probably even 600 mg. a day, are unwarranted. If, for any reason, hydralazine therapy is interrupted, it should be resumed only by gradual reinstitution of the drug in the same dosage as on initial administration.

As an alternative procedure, especially when the pulse rate is above 90 even though on Rauwolfia, we may add veratrum to the Rauwolfia regimen. This may be done with any of the standardized extracts or the pure alkaloids. We have generally used Veriloid,* starting with 2 mg. four times a day, warning the patient to reduce (not discontinue) the dosage slightly only if there is nausea, and to try to increase the breakfast and bedtime doses (to 3 mg.) if possible. We do not require the patient on this regimen to return in one week although if he is readily accessible to the office it is well to have him do so.

Finally, we may try all three agents together in certain cases in whom no combination of two is effective. This is almost never done as an initial regimen, however, in order to avoid, if possible, overloading the patient with pills. A common schedule is as follows: Rauwolfia, 1 tablet at breakfast and bedtime; hydralazine, 50 mg. (after working up slowly) at breakfast, lunch, supper, and bedtime; veratrum (Veriloid) 3 mg. at breakfast, 2 at lunch and supper, and 3 at bedtime.

It should be re-emphasized here that we hold no brief for these particular hypotensive agents so long as results can be achieved safely with others. Indeed we are trying other blocking agents such as the dihydrogenated ergot derivatives (hydergine**) and dibenzaline (688A***) in substitution for, or in combination with, the various drugs mentioned above. With increasing experience our feeling is strengthened that all the treatments now employed for essential hypertension, including surgery and diets, are non-specific hypotensive procedures, lessening cardio-vascular strain and disease. There is no reason to believe that they cannot be used together if desired.

RESULTS

Table I shows the results of combination treatment with Rauwolfia and hydralazine, or veratrum, or all three, in a number of patients. Obviously these results were on patients who did not respond adequately to one drug alone. That is, they represent "resistant" cases, at least to treatment by a single drug. Thus 13 of 39 patients tried on Rauwolfia alone had a return of blood pressure to normal. However, they were a milder group of cases as denoted by a somewhat lower average pressure (173/107) and a somewhat more rapid pulse rate (86) than for the group as a whole (192/112 and 82 respectively). They were of course maintained on this therapy.

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* Riker Laboratories, Incorporated, Los Angeles, California.

** Sandoz Pharmaceuticals, New York City, New York.

*** Smith, Kline and French Laboratories, Philadelphia, Pennsylvania.

TABLE I

Essential Hypertension
Combination Drug Treatment

Control Averages		Treatment Averages	
B.P.	P.R.	B.P.	P.R.
Rauwolfia and Veratrum in 22 Patients			
196/117	84	164/96	70
Rauwolfia and Hydralazine in 23 Patients			
206/116	79	166/93	72
Rauwolfia, Hydralazine, and Veratrum in 18 Patients			
195/117	84	144/82	72

It is interesting that of cases who failed to respond adequately to one drug, the average effects of any two tried were about the same (Table I). However, there were individual cases who responded to one combination of two but not to another. Furthermore, some patients were resistant to all three drugs, at least in the dosage so far employed. However, we have frequently observed a fall in pressure on continuing the same dosage for a longer period, on increasing the dosage moderately, or on changing the medication to include a different drug. No case with normal renal function, therefore, is accepted as impossible to treat medically until so proved. When there is uremia, the outlook for favorable effects is poor, although symptomatic improvement may follow the use of Rauwolfia.

Two case reports will serve to illustrate these results.

CASE I. I. B., a business woman, aged 50, was sent to us by her doctor for treatment of hypertension. The doctor, a prominent internist, gave the following account: The patient had always been extremely nervous, even hysterical; she had blushed and flushed easily, and had run a constant tachycardia. In 1942 her blood pressure was found to be moderately elevated, but rapidly rose from 140/100 to 180/110. In 1943 it was 190/110, in 1944 190/130. The fundi and electrocardiogram were normal at that time and pyelogram showed blunting of the calyces on the right suggesting healed pyelonephritis. In 1945 the pressure was 200/120, in 1947 220/140, and there was an aortic systolic murmur. Urine showed 1 to 2+ albumin and a few red cells. She now complained of banging occipital headaches. She was placed on a salt-free diet and increased rest, without avail. She began to complain of vague substernal pain. In 1949 the blood pressure was 240/150, in 1950 250/150. The electrocardiogram now showed left ventricular strain. The doctor felt he was making no headway with the patient, though he thought this might be due to the resentment that she appeared to harbor for him. He said that a pressure of 170/100 or less in this patient would be highly significant achievement. He feared she was in line for a cerebral accident.

We confirmed the doctor's physical examination and blood pressure readings which were as high as 300/150 when she discussed her husband whom she violently resented. The pulse rate was 104. She was placed on Veriloid, 2 mg. 4 times a day which was the only safe hypotensive agent we had available at that time.

On veratrum treatment up to 3 mg. of Veriloid 4 times a day her tachycardia and blood pressure subsided moderately to average 80 and 200/110 respectively, but at the price of occasional attacks of nausea and vomiting. Nevertheless she lost her headaches completely, and felt so much better generally that she continued the therapy faithfully for the next year. She continued to work, and if anything was more active.

At the end of the first year, Rauwolfia became available and was prescribed for her 1 tablet a day, while the veratrum was reduced to a non-nauseating dose (Veriloid 2 mg. 4 times a day). The pulse rate slowed to 72, and her blood pressure remained the same or averaged slightly lower. She visited her physician, who reported, "Her blood pressure is lower than I have seen it for a long time."

After 6 months on this combination, hydralazine appeared and was instituted gradually. The patient resisted the idea of taking so many pills, but after 3 months, was finally coaxed into taking 50, 25, 25, and 50 mg. respectively in a four-dose schedule. Her pressure now averaged 170/100, pulse 72. After 2 months her physician called and said, "I am really impressed now, her pressure is lower than since 1942. Her urine shows no albumin, and the electrocardiogram has returned to normal!"

Hydralazine was then raised to 50 mg. 4 times a day and in one month her blood pressure averaged 135/85. She was now on a four-dose schedule of Veriloid. 6 mg. a day, hydralazine 200 mg. a day and Rauwolfia 1 tablet a day. Even after discussing her husband her blood pressure was only 160/100. The patient remarked frequently on her symptomatic improvement, and "change in personality." When quizzed about the latter she said, "I am not less ambitious, I'm not less aggressive, I'm not less effective. I just don't seem to have to do the things I used to. Before, I felt I had no control over myself, I had to do things. Now I don't care, I don't even notice things. Dust doesn't annoy me now. Before, I knew it wasn't important, but I had to clean it up. Now I let it go for 2 weeks, and it doesn't bother me."

Gradually during the next month (July) her pressure moderated to 120/70 sitting, 105/80 standing, and she felt lackadaisical. Therefore, it was decided to omit the veratrum. Blood pressure rose slightly to 135/80. Her doctor sent the following note "Mrs. B. dropped in for a visit this afternoon, and you can imagine my surprise to find her blood pressure 140/90 without a preliminary rest period.

She has done remarkably well, and I am most pleased with the results."

During the hot summer months of 1952 her pressure averaged 130/80, but she felt a little weak. The dosage of hydralazine was reduced to 50, 25, 25, and 50 mg. in a four-dose schedule. The pressure rose slightly to 140/90 and she felt fine. In October with the onset of cold weather, her pressure was found to be 170/95, and the dosage of hydralazine was raised to 50 mg. 4 times a day. Thereafter and to the present her pressure has averaged 145/85, pulse 76, and she feels good.

CASE 2. E. B., a stock broker, aged 49, was sent by his company physician and his brother (a physician) for treatment of hypertension. In 1947 he had complained of fatigue, and also of occasional pain in the left arm. The only abnormal finding at that time was a blood pressure of 182/112. Urine and electrocardiogram were normal. In 1950 the pressure rose to 230/140 and in 1951 to 244/169. He developed severe headaches and cardiac enlargement by x-ray and electrocardiogram. The eyegrounds showed hemorrhages, exudates, and mild papilledema. Conservative treatment by diet and rest was of no avail.

He was admitted to the hospital for evaluation of his suitability for sympathectomy. Physical, x-ray and electrocardiographic examinations confirmed the findings reported by his physicians. The pulse rate was 72, and the blood pressure 240/140, but on bed rest subsided to 230/130 and on sedation test to 175/110. His response to the cold test was 235/145. Renal function tests showed 1+ albuminuria, otherwise satisfactory. He was considered suitable for sympathectomy and agreed to have the operation in one month, but asked to be tried on drugs during the interim. He was started on Rauwolfia 1 tablet morning and night, and hydralazine 25 mg. three times a day. He returned in a week, and his pressure was 190/100, pulse 68. Hydralazine was gradually increased to 50 mg. three times a day and one month later he was readmitted to the hospital. Blood pressure was 180/100, pulse 60. Blood pressure on bed rest fell to 150/90 and during the cold test rose from 165/95 to 175/110. The renal function was good, and the urine albumin free.

He continued on this therapy of Rauwolfia 2 tablets a day, hydralazine 50 mg. 4 times a day, and later 75 mg. 4 times a day. Ambulatory blood pressure remained about 170/95. After four months he was readmitted to the hospital for checkup. Admission blood pressure was 150/90, and during the sedation test 140/80. Electrocardiogram showed improvement toward normal and the optic fundi revealed no papilledema, no hemorrhages, no new exudates, and a few old scars while the fundal arteries showed increased light reflex, but no spasms and only slight AV nicking.

He has continued on the same regimen of Rauwolfia 1 tablet twice a day, hydralazine 75 mg. 4 times a day with ambulatory blood pressure 170/95, pulse 56. He feels perfectly well, has resumed playing golf once a week, and does not tire now as formerly.

SUMMARY AND CONCLUSIONS

Combinations of drugs for the treatment of essential hypertension are more effective than any one drug alone. Until a single agent is found which will safely control the disease without producing symptoms, further trials of additional drugs in combination should be carried out.

REFERENCES

1. Muller, J. M., Schlittler, E., and Bein, H. J. Reserpin, der sedative Wirkstoff aus *Rauwolfia serpentina* Benth. Experientia, Vol. VIII/9, 1952—p. 338.

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DR. McCORMICK'S INAUGURAL TO BE BROADCAST NATIONWIDE

The presidential inaugural address of Dr. Edward J. McCormick will be broadcast nationwide on Tuesday evening, June 2. The program will originate from the Commodore Hotel, New York, during the AMA's 102nd annual meeting. Immediately following the ceremony, a reception honoring the new president will be held in an adjoining ballroom.

NBC TO CARRY HEALTH SERIES

Another series of health education radio programs will be presented this year by the American Medical Association in cooperation with the National Broadcasting System. The series entitled "Medicine, USA—1953" will be broadcast from New York on six successive Saturdays, beginning March 21 and running through April 25, from 8:30 to 9 p.m., EST. Subjects include: problems of aging, arthritis, problems of deafness, anesthesia, rural health, and exceptional children. State and county medical societies are urged to encourage local stations to carry the series.

Vomiting in Infancy and Childhood*

R. CANNON ELEY, M.D.†
Boston, Mass.

VOMITING SHOULD never be considered as an isolated disturbance, but should be looked upon as the clinical manifestation of some disorder serious or otherwise, and its cause sought along the paths indicated by the individual patient. Not infrequently it may be due to congenital abnormality or to some underlying acute or chronic infection that may require special treatment. Therefore, the symptom should not be lightly dismissed. Obviously a discussion of the innumerable etiological factors that may cause vomiting cannot be presented. Yet a number of the more important conditions and especially those for which specific medical or surgical care is indicated should be considered.

REGURGITATION

Since vomiting is of common occurrence in the infant it becomes necessary to distinguish between true vomiting and regurgitation or so-called "spitting up". The latter condition rarely indicates the presence of pathology, but is more often the result of nursing technic, or that air is swallowed during the feeding and not expelled at regular intervals, so when it is discharged some of the ingested milk accompanies it. Faulty nipples which allow too much milk to pass through at one time with resulting swallowing of air (aerophagia), or, conversely, too small holes in the nipples which cause the infant to suck overstrenuously thus inducing him to swallow air from outside the nipple, and failure to hold the baby in the proper position during nursing, may produce regurgitation. Overhandling the baby immediately after it has been fed, such as bouncing or playing with him, may also cause the baby to spit up or regurgitate. Simple instructions and advice to the mother will usually result in prompt relief of this annoying and smelly feature.

RUMINATION

Rumination is an annoying and curious habit often developed by infants at about the third month of life. They acquire the ability to return the stomach contents to the mouth at will, and after mouthing it for a few minutes in apparent satisfaction, they spit it out or allow it to drool over the sides of the mouth. This act may go on continuously, or until the stomach has been completely emptied. As a rule the condition is not serious enough to interfere with nutrition, although occasionally the baby may show a rapid and alarming loss of weight. The diagnosis can usually be made by simply observing the infant as he performs in a rather consistent and characteristic manner. At first yawning or gulping movements are made with the mouth and at the same time the abdominal muscles are alternately contracted and relaxed. This process is continued until the milk appears in the mouth. When this method of initiating the regurgitation fails, the insertion of the hand or fingers into the mouth will usually prove successful. Treatment consists primarily in distracting the infant's attention immediately after it has been fed, either by toys, by artificial stimuli or even by music—select your records! Once distracted the idea of regurgitation is dismissed. In more severe cases hospitalization or a complete change of environment and personnel may prove necessary.

CONGENITAL ANOMALIES

Vomiting associated with congenital anomalies is usually mechanical in nature, i.e., projectile vomiting caused by partial or complete obstruction of the involved tracts. However, other congenital anomalies producing the same symptoms must be considered, such as in the case of the infant with hare-lip, cleft palate, or "Andy Gump" jaw. In these instances vomiting is due to a combination of physical and anatomical factors. The early date at which plastic surgical procedures are now introduced precludes the development of serious nutritional distrubances in these patients. However, when surgical repair cannot be instituted early in life, ingenuity, excellent nursing and training the mother in the care of the patient are prerequisites for health.

Anomalies of the Tongue and Mandibles: Macroglossia is encountered in tumors of the tongue, benign or malignant, in cretinism or in mongolism presents mechanical obstruction and may readily initiate vomiting. Conversely microglossia, with a diminutive and posteriorly displaced tongue may act as a constantly irritating structure against the posterior pharyngeal wall thus provoking the gag reflex and vomiting. Hypoplasia of the mandible or micrognathia, the "Andy Gump" jaw, a condition in which there is a marked under-development of the mandible, is not as uncommon as believed. In this congenital disturbance which is the result of arrested growth of the lower jaw at the third or fourth month of intrauterine life, the patient presents a birdlike profile, has recurrent and severe attacks of cyanosis which are frequently mistaken as evidence of congenital heart disease, frequent periods of emesis, loses weight rapidly, and may die early in infancy if the underlying etiology is not recognized. The cause of the cyanosis, as well as the vomiting, is the posterior displacement of the tongue with the "root" or base resting against the pharyngeal wall thereby acting both as a mechanical obstruction and as a local irritant. The symptoms are readily relieved by displacement of the tongue forward. The best position for the baby is on its stomach with the foot of the crib elevated. In some cases a cap with straps passing under the angle of the mandible may be required. Rarely and only in extreme cases is suturing of the tongue or tracheotomy necessary.

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† From the Department of Pediatrics, Harvard Medical School and the Department of Medicine, Children's Medical Center, Boston, Massachusetts.

* Presented at the sixty-fourth annual session of the Mid-South Postgraduate Medical Assembly, Memphis, Tenn., February 13, 1953.

Malformations of the Esophagus: These are rare, although a great variety of these disorders may be encountered in a large pediatric clinic. The most common malformation is that of atresia of the esophagus of which there are many types. Of the multiple anomalies that may result from the division of the embryonic foregut into two tubes, the one most frequently encountered is that of atresia with a blind upper segment and a communication of the lower segment with the trachea at a point above the level of the bifurcation. The two segments of the esophagus may or may not be connected by a fibrous cord. The symptomatology is characteristic in that the infant appears perfectly normal at birth, but when feeding is instituted, begins to vomit and to have attacks of cyanosis. These manifestations recur with each feeding, while between feedings the baby appears well except for an excessive amount of mucus and saliva in the mouth which at times may be discharged over the lips. Stools at first normal in appearance, soon become scanty and consist solely of the intestinal secretions. Physical examination shows a distended stomach and a flat or concave lower abdomen. Dehydration, loss of weight, aspiration pneumonia and death follow unless treatment is instituted at an early date. The diagnosis can be readily confirmed by gently passing a solf rubber catheter to the point of obstruction during a roentgenological examination. Contrast media should rarely be employed as the material will be regurgitated and may be aspirated into the lungs. If contrast media are needed lipiodol is the agent of choice—not barium. The presence of air in the stomach in association with proved atresia of the esophagus is evidence per se of a communication with the lower segment of the trachea. Treatment should never be medical apart from attempting to rectify the electrolytic changes resulting from loss of secretions and failure to retain fluids. Immediate surgical intervention is indicated as soon as the condition is diagnosed.

Hypertrophic Stenosis of the Pylorus: This is one of the commonest congenital disturbances of the gastro-intestinal tract and fortunately responds promptly to experienced surgical care. Males are more frequently affected than females and occasionally multiple instances in the same family may occur. The author has recently seen premature twins, both of whom were successfully operated upon for this condition. The symptoms of pyloric stenosis are quite constant. Characteristically, an infant three to six weeks of age who has previously been well begins to vomit and fails to gain in weight. The vomiting which is projectile in nature increases and as a result there is dehydration and loss in weight, although the infant shows no lack of appetite and appears ravenously hungry. There is constipation and bowel movements are scanty. Physical examination reveals in addition to the evidence of weight loss, active gastric peristalsis and a palpable pyloric tumor. If untreated the infant may die of starvation and dehydration in four to six weeks, although recovery may take place without surgical intervention.

Pplorospasm may produce the same clinical picture as encountered in pyloric stenosis although the absence of a palpable pyloric tumor differentiates the two conditions. If the mild forms thickening the consistency of the formula may be sufficient to alleviate the symptoms. This can best be done by adding cereal in the ratio of 1 to 15 or 1 to 10 to the feeding. In the more severe forms atropine may be required to relax the pyloric sphincter and allow the passage of food from the stomach. Phenobarbital may accomplish this purpose and if effective is the drug of choice as it does not have the unpleasant side effects of atropine.

Meconium Ileus as a cause of vomiting in the newborn infant is not a common condition but one that warrants early diagnosis and prompt attention. At birth the infant usually appears normal and physical examination discloses nothing of significance. On about the second or third day abdominal distention is observed, vomiting begins and becomes persistent. A review of the nurse's notes at that time will usually show that the baby has passed no meconium or only a very small amount. After an enema the infant will usually evacuate hard, firm or rubbery inspissated meconium following which normal meconium will appear and the symptoms will be relieved. Not all infants respond so nicely to this form of therapy, as the meconium may at times produce complete intestinal obstruction resulting in death. Occasionally perforation of the bowel may occur with production of meconium peritonitis. This condition can often be diagnosed by x-ray examination which, apart from the other features of peritonitis, reveals the presence of minute calcified areas within the peritoneal cavity. Postmortem examination has shown inspissated material in the pancreatic and bile ducts, with fibrocystic changes in the pancreas. This has given rise to the opinion that the inspissated meconium is caused by an absence of pancreatic enzymes and bile, both of which are held to be necessary to maintain the meconium in its normal state.

Malrotation of the Intestines during embryonic development may result in compression of the duodenum by bands, folds of the peritoneum, or by the bowel itself. These bands or folds often lie directly across the descending portion of the duodenum producing the signs and symptoms of high intestinal obstruction. Vomiting is the outstanding symptom. It usually begins in the newborn period and may be intermittent or continuous, resulting in rapid dehydration. Associated with the vomiting is abdominal distention and active peristalsis. The stools are scanty. In a small percentage of cases symptoms of obstruction may not appear until later in childhood, but if a careful history is taken it will be found that the patient has always suffered unexplained attacks of vomiting and abdominal pain. The treatment of these malrotation anomalies is necessarily surgical and such therapy should be sought once the diagnosis has been established.

Atresia of the Intestines may result from an arrest of embryonic development during the second or third month of fetal life at any point in the course of the gut. These areas of complete obstruction or complete break in continuity may be single or multiple. They are more often located in the ileum, rarely in the colon, and only occasionally in the duodenum or jejunum. Stenosis of the intestines with partial obstruction most often occurs in the duodenum and in the ileum. The symptoms of atresia or stenosis are the same and vary only with the degree of obstruction. When the feeding schedule is initiated the vomiting appears persistent and is often violent in nature. Since the obstruction is almost always below the ampulla of Vater, the vomitus rarely contains bile. Stools may be scanty or amount to a little more than a stain on the diaper. The usual sequelae of loss of weight and dehydration follow in rapid succession with the result that the infant soon becomes acutely ill.

Sometime ago Farber pointed out that normal meconium contained cornified epithelial cells which were derived from the skin of the fetus and swallowed with the other contents of the amniotic sac in utero. The absence of these cells in the meconium is highly suggestive of the presence of complete obstruction of the alimentary tract. X-ray studies are helpful in that they not only confirm the diagnosis of obstruction but may often localize the site. Only by prompt surgical intervention can the condition be corrected.

INFECTION AS A CAUSE OF VOMITING

Infection is undoubtedly one of the commonest causes of vomiting in infancy and childhood and for this reason whenever the presenting symptom is emesis efforts should be made to establish or exclude its presence. In childhood the act of vomiting is usually replaced by the complaint of abdominal pain or discomfort and nausea. Infection may be enteral or parenteral, acute or chronic. Of the acute infections those of the respiratory tract are perhaps the most commonly encountered such as the common cold, pharyngitis, otitis, laryngitis and pneumonia. Specific infections of the gastrointestinal tract, i.e., typhoid fever, bacillary or amoebic dysentery, though perhaps common in some sections of the country, are not in general frequently encountered. In the female infant infection of the urinary tract i.e., pyelonephritis, is of such common occurrence that its presence should be suspected with the onset of any clinical evidence of illness. This disturbance occurs much less frequently among male infants, and, when present, is of a more serious nature, for it is often secondary to some congenital malformation or anomaly. Therefore in this latter group of patients more extensive studies of the urinary tract are indicated. Acute infections of the central nervous system occur rather commonly in infancy and childhood and should always be considered when there is any evidence of infection. In infancy the classic signs of meningitis which appear in later years and in childhood are strikingly absent and as a rule, fever, irritability and vomiting are the only indications of its presence. A healthy suspicion and an examination of the cerebrospinal fluid may be most revealing. When one considers the anatomical structure of the infant's head with its open sutures and fontanels, it at once becomes apparent that such clinical evidences of intracranial pressure as projectile vomiting, headache, papilledema and convulsions may not necessarily be present. If they do occur, they usually indicate that the infectious process has been present for some time with resulting obstruction to the normal flow of the cerebrospinal fluid, a condition which of course then leads to increased intracranial pressure, hydrocephalus and atrophy of the brain. As already suggested, the evidence of increased intracranial pressure may be present in older children but its absence in infancy does not exclude the possibility of meningeal infection.

In the newborn infant the colon bacillus is more often the causative organism of meningitis than any other. After this age period penumococcal, influenzal streptococcal, tuberculous and meningococcus meningitis are the types more commonly encountered. It is of clinical significance to note that approximately 75 per cent of the cases of influenzal meningitis occur in infants under two years of age. The treatment of the various types of meningitis cannot be reviewed at this point as our increasing knowledge of the uses of the chemotherapeutic and antibiotic agents is constantly changing these procedures. Therefore, when confronted with a patient suffering from meningitis the physician should seek advice as to the most effective therapeutic procedure currently in use.

Chronic infections causing vomiting may be enteral or parenteral, although in the majority of cases they are of the latter type, such as low-grade, persistent infections of the urinary tract, sinuses, osteomyelitis, pneumonitis, tuberculosis and less frequently, infections of the central nervous system such as brain abscess. Therefore, the search for the underlying pathology will of necessity have to be more extensive in nature and not infrequently hospitalization and a careful study of all the systems for the presence of a general or focal infection will be necessary.

VOMITING DUE TO CENTRAL NERVOUS SYSTEM DISTURBANCES

Any agent or disturbance that irritates the central nervous system may produce vomiting. Infection of this system, whether purulent such as encountered in meningitis or nonpurulent as in encephalitis, or a brain abscess is almost invariably attended by severe emesis. The vomiting though usually described as projectile and persistent, may in the less fulminating conditions such as tuberculous meningitis be intermittent and effortless. Tumors of the brain during their earlier periods of expansion often produce this effortless emesis, but as the process becomes more invasive or expansive, there is a rapid increase in the intracranial pressure with resulting forceful and projectile vomiting. Toxic substances, such as lead poisoning with resulting encephalitis must also be considered as an etiologic factor. In childhood trauma to the central nervous system such as encountered in accidents, falls, competitive games, and all the ups and downs of this age group, is a common cause of vomiting. Fortunately the majority of these concussions are not severe and after a few hours of vomiting and headache the edema subsides and the symptoms are relieved. In the newborn infant trauma at birth with resulting vomiting should always cause one to consider the possibility of intracranial hemorrhage. The presence or absence of such a condition can usually be established by subdural punctures or by a lumbar puncture. In later infancy the development of a subdural hematoma following what often appears to be a minor fall or injury may be the cause of unexplained vomiting. The treatment of this type of vomiting lies in the hands of the neurosurgeon.

METABOLIC DISTURBANCES AND VOMITING

Many non-infectious disorders in childhood may cause vomiting. Thus we see the systemic effect of renal disease inciting vomiting, either indirectly by the development of cerebral edema, or as a result of the accumulation of nitrogenous products in the blood. Diabetic acidosis has as one of its symptoms persistent vomiting which only adds to the difficulty of establishing and maintaining effective therapy and hastens the development of coma. In some cases vomiting of a recurrent or intermittent nature may be an early clinical manifestation of developing diabetes and hence the importance of examination of the urine in all such cases. Cardiac decompensation is frequently first manifested by emesis, the physical exertion of which tends to aggravate the cardiac condition, thus producing a vicious cycle. Sedation is therefore of prime importance in these instances.

CYCLIC VOMITING

There still remains some doubt as to the actual existence of this syndrome, yet one does encounter children who have recurrent or periodic attacks of severe vomiting for which no adequate cause can be demonstrated. This vomiting may be severe and as a result of the loss of fluids and electrolytes a state of ketosis may develop. In the absence of infection or demonstrable pathology, one must conclude that this phenomenon is probably due to many independent factors, such as fatigue, overexertion, emotional and psychological disturbances.

Treatment should be directed along those lines of restoring the normal electrolytic balance and combating dehydration. Oral fluids or food should be withheld as their administration will only be followed by further emesis. The ketosis can readily be corrected by the parenteral administration of glucose and saline solutions. Sedation is not always necessary, but in cases in which the child shows emotional instability it may be very effective in breaking the vomiting cycle.

PSYCHOGENIC VOMITING

Repeated vomiting in childhood often has a psychological cause which fortunately can usually be uncovered without extensive psychiatric study. The child is not slow to recognize the immense value of this procedure and may employ it freely in order to attain his own ends, which may be simple or complex. Thus we encounter its use in order to gain more attention from the family, to be the center of attraction in the family, or to be the center of attraction at a party and so forth. Not infrequently the appearance of a new baby in the home is the precipitating factor with the older child. Again it may be employed as a means of avoiding school. At times the cause may not be so simple, but based on some deep emotional disturbance such as the death of a close friend or some member of the family. This type of vomiting rarely results in ketosis nor does it materially affect or endanger the child's nutritional condition. It should be stressed that a diagnosis of psychogenic vomiting should not be made until the physician has carefully excluded the more serious disorders which may produce this symptom. However, once the diagnosis has been made treatment can be instituted and this will depend on the nature of the child, the attending circumstances and the environment. The manifestations of vomiting as a psychologically motivated rejection phenomenon occur in older children as the result of complex emotional disturbances to environmental factors. In the more resolute competent psychiatric care will be necessary before social readjustment is obtained.

ACUTE GASTRITIS AND VOMITING

Irritation of the gastric mucosa may occur from infection or from irritants such as drugs, poisons, and foreign bodies. Infection, either in infancy or childhood, is rarely the causative factor. The ingestion of foreign bodies such as safety pins, coins, and the innumerable other objects which find their way into the young infant's mouth seldom produce sufficient local irritation to give rise to symptoms. Drugs and poisons accidentally ingested frequently produce such an immediate irritative effect that vomiting ensures removal of a large amount of the material swallowed. Furthermore, the infant or child usually vomits repeatedly. In some instances emesis may become persistent with such a loss of fluids and gastric secretions that measures to combat ketosis and dehydration become necessary. Symptoms other than vomiting will depend on the nature of ingested material, its amount and the presence or absence of food in the stomach.

FOOD AND VOMITING

Under this title may be mentioned the vomiting that occurs following the ingestion of certain foods to which an infant or child appears allergic. Certain infants will vomit every time they are given orange or tomato juice as a source of vitamin C, thus making it necessary to supply this substance by some other means. Older children may have the same reactions to these juices or may demonstrate sensitivity to foodstuffs such as egg, spinach, and so forth. Control of this type of vomiting is obtained by removing the specific substance from the diet. If desensitization to these foods is desired it may at times be accomplished by ingesting small amounts of the substance and gradually increasing the amount as the patient demonstrates his ability to take it without allergic reactions.

Formulae, if properly prepared, are seldom the cause of vomiting in infancy though they are frequently considered as such. When one considers the numerous commercial preparations now available for infant feeding, it must become apparent that if the preparations are proper and the infant in good health he can do surprisingly well on any of them. Overfeeding in volume with resulting distention of the abdomen will cause vomiting but here the fault is mechanical and not due to the nature of the formula. It is thought by some that the fat in cow's milk may in some cases cause vomiting. This is explained on the basis of fat dispersion, as the fat in cow's milk is less finely divided than in human milk.

In the older child vomiting from food may merely be a manifestation of overeating or "stuffing", such as is apt to occur at children's parties or festival meals. As a rule this type of vomiting is without significance and once the stomach is relieved of its burden the child is comfortable and well. In those instances in which the child has eaten food contaminated by pathogenic organisms such as the Salmonella group, vomiting may be recurrent and persistent and is usually accompanied by diarrhea and a febrile reaction. The preparation of foods in certain metallic containers may also cause vomiting due to the presence of toxic substances obtained from the metal.

CHALASIA

Cardioesophageal relaxation may result in persistent or recurrent vomiting. This usually begins a few days after birth and rapidly becomes progressively worse, reaching the point where vomiting occurs with every feeding. The vomiting is rarely forceful and does not contain bile. It may occur at any time, but is most apt to occur when the infant is placed flat in the crib following a feeding. As a result of the persistent loss of food, the infant gains slowly and in some cases may show no gain over a considerable period of time. Repeated physical examinations are discouraging as they fail to reveal any explanation for the emesis. However, the diagnosis can readily be established by fluoroscopic examination while the infant is being fed his formula to which barium has been added. The esophagus usually appears larger than would be expected and is rather flaccid. Peristalsis is nearly always diminished in both forcefulness and frequency. Some narrowing of the hiatus esophagus occurs and there is failure of the sphincter-like muscular tonicity at the level of the diaphragm to close off the cardiac end of the stomach. The result is that during the inspiratory phase of respiration the esophagus dilates and may become filled with barium from the stomach, while with expiration the esophagus becomes compressed with some of the barium returning to the stomach and some being forced into the infant's mouth. When the baby is placed in the supine position and even slight pressure made on the abdominal wall, the stomach contents can be seen to pass up into the esophagus and even into the mouth.

Treatment is symptomatic and consists in feeding the baby in the upright position and maintaining him in this position in his crib. The formula should be thickened by the addition of cereal as this will make regurgitation less likely to occur. The underlying cause of this relaxed state of the hiatus esophagus is not clearly understood but it is thought to be due to some temporary disturbance in the neuromuscular function of this portion of the esophagus and diaphragm. The condition disappears after a few months.

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Cervicitis with a Plea for Routine Biopsy*

M. M. SNELLING, M.D., F.A.C.S.
Gulfport, Miss.

TEN YEARS ago, in this assembly hall, I discussed a paper on cancer of the cervix. At that time I made a plea for routine biopsies of the cervix.

Since then we have been following that same advice. In fact, each year it seems we find more reasons in our direct practice, and more reports in the current literature, which agree that routine biopsies are good procedures.

I shall not burden you with all the different types of cervicitis. Nor shall I refer to the special cases where cancer might be found at the internal os.

For the next few minutes an effort will be made to report on 200 routine biopsies of the cervix carried out in our office or at the Memorial Hospital, in the last six years. To this series we add one case done in December, 1941. This case is added because it so very well illustrates the pre-cancerous or potentially malignant condition, and which case because of treatment is still living and well, whereas without treatment she could easily have developed a cancer undetected until too late.

I cannot report on the years 1942 through 1945, as those years were spent in the army. However, for nine months of that time, while in charge of out patient service for dependents, we biopsied a few cases. The reason we saw so few was because most of the army wives treated in our clinic were very young. However, of the few we biopsied, none was even potentially malignant.

These 200 cases presented every type of cervicitis; but strange to relate, the four cited later in case reports showed only mild erosion. All 200 reported fell into an age group of 35 to 55. We have tried to take the age 38 as the time to consider a routine biopsy. A rare case insists on anaesthesia, and these we hospitalized. The others are examined with vaginal speculum and a punch biopsy taken from several areas around the cervical os. After we have secured the biopsy material, we then use the cherry red cautery in the spoke wheel fashion, also treating the endocervix with the cautery tip after it has been allowed to cool a little. These patients are seen every two or three weeks for several times and are then instructed to report for examination once a year.

I quote from a paper I read before the Southeastern Surgical Congress in 1941, in which I reported a series of over 1000 cases of cervicitis treated with the monopolar fulguration current of diathermy: "291 of these patients have reached the fifth, sixth, and seventh decades of life and so far none has developed a cancer."

Now ten years later not by direct examination, the grapevine, or remote control has our office ever learned of a single case of this 1941 series with cancer. Nor have we found any cases with cancer that we have cauterized or have biopsied and also cauterized, except the four case histories following.

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* Presented before the Section on Surgery at the eighty-fourth annual session of the Mississippi State Medical Association, May, 1952, Jackson, Miss.

Before giving these cases please allow me to define as best as I have been able to understand the following terms:

1) A *carcinoma in situ* is a true cancerous formation, i.e. composed of cancer cells which grow in an area or given areas and which cause pressure upon and yielding of the limiting basement membrane. The latter structure, however, remains intact.
2) A *preinvasive cancer*, like the carcinoma in situ, is a true cancerous growth, but appears to represent a further extension of the former in that limiting membranes are broken but the cancer cells have not infiltrated to any reasonable degree into proximal structure. This may also be termed an incipient carcinoma.
3) An *intra-epidermal epithelioma* is also a cancer but herein the epiderm along its normal line of growth has been replaced by cancerous epithelial cells.
4) It seems best to consider the remaining terms, i.e. *premalignant*, *potentially malignant* and *precancerous* as in the same group since to a great extent there is little if any difference in the nature of such lesions. These are, of course, not truly cancers nor is the nature malignant; as a matter of fact, it is fortunate that the great majority of such never do become malignant. In this connection, however, it is to be appreciated that such diagnoses are often made upon excisions rather than partial biopsies and hence the subsequent development of a definite cancer may have been prevented. Again, if the lesion is only partially removed, a more extensive procedure may likewise represent prophylaxis against cancer. Furthermore periodic observations alone in such instances often either assure that no cancer has developed or contrariwise the very early recognition of cancer is made practical.
5) The terms *premalignant* and *precancerous* seem to imply that cancer will necessarily follow. For this reason a statement that the lesion is potentially malignant appears to be more accurate in that it signifies the potentiality of, but not the necessity that cancer will follow. It seems best to limit the term precancerous to such lesions as Paget's disease of the breast, leukoplakia, keratosis senilis and the like, wherein the incidence of subsequent occurrence of cancer is quite high.

CASE 1—Mrs. H. D. S., age 54. Biopsied December 6, 1941. Pathology report from Drs. Harris and Freidrichs of New Orleans, La., reads:

> "GROSS: Five pieces of tissue were received. These were of approximately the same size, the largest of which measures 1 x 1 0.5 cms. They are of a grayish-brown color and rather firm in consistency. The outer surfaces are rough and granular.
>
> "MICROSCOPIC: Several sections were prepared. These reveal, in greater part, smooth muscle that is disintegrated and separated. There is an occasional small portion of squamous epithelium and also one endocervical gland. The entire field is masked with dense accumulations of inflammatory cells, particularly of the lymphoid type. Here and there are seen a few epithelial-cell clusters that reveal anaplasia and appear malignant. It is apparent that the extensive inflammatory cell migration could obscure other cytological changes.
>
> "DIAGNOSIS: Marked subacute and chronic cervicitis and endocervicitis with tissue necrosis and a few islands of epithelial cells which appear malignant."

This patient was given 1840 r. in quality of radiation ½ value layer 2.35 mm. copper, at 6 pelvic ports, 2 anterior, 2 lateral, 2 posterior, 10x15 cm., 6 days a week for 5 weeks.

This lady has been checked every six months, during the war by my partner and since by myself. She's 65 and still O.K.

CASE 2—Mrs. H. S. Age 35. Report from Drs. Harris and Freidrichs of New Orleans, La., reads:

> "GROSS: The specimen consists of two small masses of tissue each measuring 5 x 3 x 2 mm. in the average dimensions and three thin transparent cystic forms which from their "bubble like" appearance may be mucoid artifacts. The tissue is fairly firm, irregular and amorphous in appearance.
>
> "MICROSCOPIC: Sections show a dense fibrous tissue and smooth muscle stroma underlying a thickened stratified squamous epithelium. The latter is greatly increased in thickness and shows some acanthosis. In an occasional area this epithelium has extended considerably into the stromal portion. There is a large number of inflammatory cells throughout the stroma and beneath the epithelial surface. Contained within portions of which are greatly dilated (cystic). There is some degeneration of the lining cells and accumulation of inflammatory cells, lymphoid and plasma, in the vicinity of these glands.
>
> "DIAGNOSIS: Marked chronic cervicitis with extensive proliferation of squamous epithelium which latter presents disturbance of histological relationship. No malignancy has been found, but the changes should be regarded as of a potential malignant character."

This patient was given 1840 r. in quality of radiation ½ value layer 2.35 mm. copper—at 6 pelvic ports, 2 anterior, 2 lateral, 2 posterior, 10x15 cm. 6 days a week for 5 weeks.

Checked every 4 months for past 5 years and still O. K.

CASE 3—Mrs. A. N. Age 49. Pathology report from Drs. Harris and Freidrichs of New Orleans, La., reads:

> "GROSS: The specimen consists of two oval shaped bits of tissue, the larger of which measures 7 x 3 x 3 mms. in the various diameters. Both portions correspond to the same gross description. i.e the upper surfaces are somewhat smooth and of a buff color, while the underlying portions are of a grayish-white color. The specimen is moderately firm in consistency.
>
> "MICROSCOPIC: Sections show a superficial squamous cell proliferation which in area extends below the basement membrane. Numerous mitotic figures are noted. The underlying stroma is composed of dense fibrous connective tissue containing numerous scattered lymphoid and plasma cells. No grandular elements were present.
>
> "DIAGNOSIS: Squamous cell carcinoma, early stage."

TREATMENT: We wish to report that we have completed the application of radium to the cervix. 50 mg. in two 25 mg. tubes in tandem with a total filtration of 1.5 mm. of platinum and was placed in the cervical canal. Each of the three colpostat units held 10 mg. of radium with a total filtration of 2.0 mm. of platinum. One of the colpostat units was attached to the intracervical applicator and the other two were placed in the lateral fornices. Plain gauze packs were employed. The application was made at 7:30 a.m. on 11/28/47 under general gas anesthesia. Mrs. N. was kept in the Trendelenburg position throughout the application of radium and was given 1 cc. of liver extract twice a day as a prophylactic for irradiation sickness. On 12/1/47 all of the radium applicators were removed. After a twenty-four-hour rest period, on 12/2/47, two colpostat capsules, each containing 15 mg. of radium, were applied in the lateral fornices and held in place with plain gauze packs. The intracervical unit was not reapplied at this time. The radium was removed entirely on 12/4/47 at 7:30 a.m.

A Foley retention catheter was placed in the bladder at the first radium application in an attempt to insure complete emptying. During the next twenty-four-hour period, because of the small amount of urine voided, 1000 cc. of 5 per cent glucose in normal saline was given. Mrs. N. complained of some frequency and burning throughout the radium application.

Dosage

Intracervical	3600 mg. hrs.
Colpostat	3600 mg. hrs.
Total	7200 mg. hrs.

X-Ray treatments to the pelvic fields.

Mrs. N. received 1833.8 r. to each of the following ports; right anterior, left posterior, right lateral, and left lateral. She received 1764.6 r. to the left anterior and right posterior fields. The factors employed were 250 K.V.P. thoraeus and aluminum filtration. Mrs. N. also received 2016 r. through an intravaginal cone at the following factors; 100 K.V.P., no added filtration. The treatments were started on 9/4/47 and completed on 10/24/47.

CASE 4—Mrs. H. S. Age 45. Pathology report from Drs. Harris and Freidrichs of New Orleans, La., reads:

> GROSS: The specimen consists of three oval shaped bits of tissue which measures in the aggregate approximately 5 x 3 x 3 mms. in the various diameters. The surface epithelium is of a glistening grayish-white color and is smooth. The underlying portion is of a dull white color and the surface is somewhat irregular. All three portions more or less conform to the same gross description.
>
> "MICROSCOPIC: Sections show a marked increase in number of the racemose glands many of which are cystic. The cells lining the glands are tall simple columnar in type with dense elongated nuclei. The basement membranes are well defined. The intervening stroma is of dense connective tissue with many spindle-shaped cells. Numerous lymphoid and plasma cells are also present. The surface epithelium is composed of prickle cells which show hyperplasia. At intervals buds of neoplastic squamous cells protrude into the stroma. An occasional mitotic figure is noted in these cells. The pathology found represented indication of the growth 'in situ'.
>
> DIAGNOSIS: Squamous cell carcinoma."

TREATMENT: We have completed the application of radium. 50 mg. with two 25 mg. tubes in tandem with a total filtration of 1.5 mm. of platinum was placed in the cervical canal. The colpostat units each held 15 mg. of radium with a total infiltration of 2.0 mm. of platinum and were placed in the lateral fornices. Plain gauze packs were used to obtain the maximum spacing between the bladder and the radium and between the rectum and the radium. A Foley retention catheter was left in the bladder throughout the radium application to insure complete emptying and to prevent excessive irradiation to the bladder wall. The application was made at 7:30 a.m. on 11/15/47 under nitrous oxide and pentothal anesthesia. Mrs. S. was kept in the Trendelenburg position throughout the application of radium and was given 1 cc. of liver extract twice a day as a prophylactic for irradiation sickness. On 11/18/47 at 7:30 a.m. all of the radium applicators were removed. The intracervical radium was not reapplied at this time. The radium was removed entirely on 11/20/47 at 9:30 a.m.

Dosage:

Intracervical	3600 mg. hrs.
Colpostat	3660 mg. hrs.
Total	7260 mg. hrs.

Deep X-Ray Treatments: Mrs. S. received 1937.6 r. to the right anterior field, to the right lateral and to the left lateral fields: she received 1695.4 r. to the left anterior, right posterior and left posterior fields. The following factors were employed: 250 K.V.P., thoraeus and aluminum filtration. She was given 2160 r. through the intravaginal cone at 100 K.V.P., no added filtration. The treatments were started on 9/8/47 and completed on 10/21/47.

We have done routine biopsies on 200 cases of cervicitis in the past five years. The age range was 38 to 55. We consider 38 the age at which seriously to consider a routine biopsy.

In these 200 cases we found two cases of a definite potential malignancy, and two cases of true malignancy. After 10 years in one case and after 5 years in three cases, all four are in excellent health. These biopsies are simply done, anesthesia rarely being needed.

As the years go by we need to keep in mind that we only see and feel the gross tissue; but the microscope of the pathologist reveals thousands of tissue cells in their correct or incorrect order and structures.

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The Forgotten Man of Medicine

PAUL WILLIAMSON, M.D.
Memphis, Tenn.

ALONG WITH a good many other physicians, I believe that the time has come to consider the forgotten man of medicine. We must take stock of the procedures we do in the light of their effect on him. We must take stock of our economic policies as they affect his bank account. You will certainly agree with me that the forgotten man of medicine is—too many times—the patient.

1. The patient is not interested in our intellectual curiosity. He proposes to buy from us advice and understanding. He proposes to pay for this with two things, money and respect. He is, however, not interested in paying, at least with money, for our extensive investigations which sometimes do nothing but satisfy our own scientific curiosity.

Too often this is completely forgotten. We have all seen needless work done on a patient simply to gratify the urge of the physician for a more complete understanding of the pathological process which he proposed to treat. There can be no legitimate criticism of this scientific curiosity but it is of no direct benefit to the patient. If we propose to exercise it, we should explain well to the patient what we are doing and then do it under such terms that neither his time nor his pocket book will suffer.

Each physician must realize that the criterion of success in medicine is whether or not his patients feel better, not whether or not he contributes to the scientific literature. It is, of course, advisable to do both if possible, but let me repeat: Not at the expense of the patient.

2. The patient wants relief from his symptoms, not a fancy name for these symptoms. One can scarcely overemphasize the importance of diagnosis in medicine. It is impossible to plan an intelligent course of treatment or to realize a truly successful practice unless one keeps well in mind that an accurate diagnosis comes first. The practice of medicine, however, is not a diagnostic exercise. At the completion of the diagnosis, there comes the problem of giving the patient maximum relief.

You will be surprised how little some physicians know about therapeutics. It sometimes seems that we practice medicine in a sea of penicillin and elixir of phenobarbital. Many tried and true remedies and common sense treatments of minor illnesses are not within the purview of the average physician and are not used in the practice of medicine.

This is regrettable from both the patient's standpoint and the doctor's. Let me take an example which has occurred in our own clinic. I have seen a physician very proud of himself because he had arrived at a diagnosis of hypertensive encephalopathy. I must confess that all that I can see that he did was to translate the English words, "A man with high blood pressure and something wrong with his brain" to the very erudite sounding phrase, "hypertensive encephalopathy." When questioned further, the young physician admitted that he knew of no effective therapy and had told the patient to rest and had given him some phenobarbital with no further instructions of any kind. He had not bothered to discuss the problem with members of the family. To me, that is regrettably poor medicine.

While I would certainly not be so brash as to advise slighting the arts of diagnosis, I would advise that more attention be paid to what the patient wants. Remember foremost in your mind that he asks for relief of pain and fear and for prognosis. He is not interested in various procedures you use to arrive at these points. He feels considerably slighted when you make of him only an exercise in diagnosis.

3. The patient has to consider the economic worth of any procedure. By this we mean that he has to consider its worth to him in terms of what it is going to cost him. This is one of the

sore points in the practice of medicine. Physicians, particularly young physicians, sometimes give no passing thought at all to the cost of a procedure.

No procedure of medicine is a good thing of itself. It is good only in terms of what can be achieved for the patient. As in all other fields of endeavor, this achievement must be balanced against the economic cost of the procedure.

Let us take a simple example. Measles has bronchopneumonia as a complication often enough to warrant routine chest films on children. We do, however, have to admit that there are times when the stethoscope, the thermometer and one's hands, eyes, and ears can do almost as efficient a job in making the diagnosis as the x-ray. Sometimes the patient can afford to pay three dollars for a personal examination when he cannot afford the cost of the x-ray.

It would be a good thing if each of us who practices would stop to consider more fully the economics of the patient before plunging into a complete investigation of each minor complaint. I know that there are physicians who will take exception to this statement but it is my personal view that our first allegiance is to the patient—on his terms, not on ours. We have the right to suggest what should be done but we do not have the right to insist on any procedure that is uneconomic from the patient's viewpoint.

4. The patient is not interested in interdepartmental or interspecialty strife. There is some danger that medicine sometime in the future may break down into a series of trades or guilds: the bonesetter, the child-doser, the heart fixer, etc. We have certainly taken a step or two in that direction. This is a bad thing for both the patient and the physician.

Basically, the patient wants to come to a doctor. He wants surcease from pain and worry and he is not overly interested in the qualifications of the physician if he affords relief. Particularly in larger clinics and medical centers, the interdepartmental strife which can arise over who shall care for a particular patient or group of patients can cause one heartbreaking experience after another for the poor forgotten man of medicine.

When one sits to one side and watches a group of highly trained experts in medicine fight like small puppies over a bone about a patient, it can be funny. From the standpoint of the patient, it can be tragic. While there is ample reason for highly specialized individuals throughout the practice of medicine, there is such a thing as these same highly specialized individuals guarding their own field to the point of foolishness. We should keep in mind always that the object is to give the patient relief, not to accumulate a favorable statistic for orthopedics or internal medicine or pediatrics. I think it more important that we get patients well than that we establish rigid lines of specialty practice or of individual practice. Don't you?

5. The patient expects judgment from his physician, not just service. Too often the practice of medicine is mechanized. For example: "You give me ten dollars and I'll refract your eyes and that's all there is to it". Unfortunately, that isn't all there is to it. The patient expects the refractionist to exercise judgment as to whether or not another disease might enter into the picture, as to whether or not the eyes need refracting at all, and to offer some sound advice regarding the entire over-all picture of the patient's care, rather than to perform a task for a set fee.

When a patient goes to his family doctor, he expects not only medical but also a degree of psychiatric care. He expects a warm human understanding and intelligent consideration of a problem. He has a right to expect that the family doctor will use good judgment in deciding when to call a consultant and what consultant to call. There is no room for professional jealousy in such an arrangement nor is there room for the mechanistic physician who would perform a specific task for a specific fee.

6. The patient expects service from his physician. He has a right to believe that his physician will be available to care for him in any illness at any time. This does not imply that the physician can have no leisure time, but it does imply a definite obligation on the part of the physician either to take care of his patients himself or to make arrangements for other physicians to do so. Too often, we see the attitude of, "I just don't make night calls", or "I just don't do this". It is my firm belief that no physician worthy of the name will refuse to serve any individual who is in genuine trouble and who needs medical attention. I can understand, as we all can, that the physician needs leisure time and that there are physical conditions to which the physician must bow. But I cannot understand the attitude that is so often expressed, "I've got enough practice. I've got enough money. Why should I make night calls"? To me, medicine is a calling as well as a financial enterprise. The public has a right to view it as such and would like to view it as such.

All the above isn't quite the indictment of the medical profession that it seems to be. We all know that the best medical service in the world is rendered by the physicians of this country. We know, too, that there is no group of more dedicated men than this group of doctors. It is, however, occasionally a good idea to take frank stock of one's faults. That is what we have attempted to do in this article. It is frankly critical but the criticism is given with the thought that much can and will be done to meet it.

The Conduct of the Premature Delivery*

K. RAMSEY O'NEAL, M.D.
Hattiesburg, Miss.

1. *Introduction.*

PREMATURITY, TODAY, remains the most important factor in fetal and neonatal mortality. In recent years much improvement has been made in the survival rate of the premature infants through close cooperation of the obstetrician and pediatrician and it is believed that further improvement will be made through attention to certain basic principles. Some causes of premature labor may be prevented by proper prenatal care, but at least half of all premature labors are inevitable. Mortality rates for premature infants living over 48 hours have greatly improved. Neonatal deaths occurring in the first 48 hours are of obstetric origin and therefore certain basic principles should be borne in mind in management of labor.

The incidence of premature infants has been variously reported. O'Connell in a series of 7,332 deliveries reported there were 173 living premature infants or an increase of 2.35 per cent. Douglas, in a national survey in England, reported that of 13,257 infants born singly, 6.5 per cent were premature and 52 per cent of all neonatal deaths were in this group. When 338 multiple births were included, the prematurity rate rose to 7.6 per cent. This survey also showed that social class differences were an unimportant factor in the premature delivery, a low incidence occurring only in the most prosperous 9 per cent of the group, but in the remaining 91 per cent, class difference was of no significance. Further, it was shown that high rates of premature delivery were found in two well defined groups of working class women, primiparas aged 20 or less and multiparas with closely spaced pregnancies. These two groups are the least likely to receive adequate prenatal and confinement care and often are employed late in pregnancy. Elderly primiparas and multiparas of all classes show a high premature incidence and women who space their pregnancies more than two but less than six years are least likely to have premature babies.

2. *Definition.*

The American Society of Pediatrics defines any infant under 2500 grams regardless of body length as premature. The American Public Health Association states that an infant with a birth weight of 5 pounds and eight onces (2500 grams) or less, a crown-heel measurement of 47 cm. or less and a gestation of thirty seven weeks or less should be considered immature, and by virtue of the fact that special handling is indicated, premature. Birth weight is the most important guide. Viable prematures range in weight from 1000 to 2500 grams and previable prematures weigh less than 1000 grams.

The diabetic mother is often apt to deliver prematurely. These babies may weigh much more than the maximum 2500 grams even when born as early as 30-32 weeks gestation. However in this case, the age factor is the most important and the infant should be considered as any other premature delivery. Parmalee calls attention to almost constant lack of engorgement of the breasts in premature infants and feels that even in infants which weight less than the accepted 2500 grams for prematures, that if there is breast engorgement, the infant should be considered mature and may be expected to develop normally.

3. *Cause of Prematurity.*

In general, in over half of the cases of premature delivery, no known cause or complication of pregnancy can be found. Bookstaver feels that a history of having had previous premature infants is significant and reports 52 instances out of 582 premature deliveries in which this was the case. This tendency for certain patients to have premature deliveries has been noted by other observers and it is postulated that this is due to an inability of the uteri of these women to accommodate the normal size fetal ovoid at term because of the under-development of the uterine muscles. Also in keeping with this thought is the high incidence of premature rupture of membranes (31 per cent in Bookstaver's series) and multiple pregnancies (12.3 per cent in the same series). Here again, the etiological factor is felt to be overdistention of the uterus with an inability of the uterine muscle to accommodate the fetal contents.

Although in the majority of cases no complications of pregnancy can be found, such complications do occur in many cases and are consequently believed to be of significance.

Toxemia of pregnancy in all of its forms is the most common complication. It is reported as occurring in from 13.4 per cent (Bookstaver) to 22.69 per cent (O'Connell). Multiple pregnancies occur with sufficient frequency as noted above to also be considered a significant complication. Premature separation of the placenta and placenta previa occur frequently enough to be considered etiological factors. Previous surgery of the uterus occurred in 3.4 per cent of Bookstaver's series and in the majority of cases the surgery was a previous section in which the onset of premature labor was terminated by a repeat cesarean section. Less common complications which may or may not be significant are heart disease, pyelitis, diabetes, syphilis, and hyperthyroidism. In recent years an occasional premature infant is delivered, usually by cesarean section, because it was felt wise to terminate pregnancy prior to term because of a rising Rh antibody titer.

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* Presented before the Central Medical Society, November 6, 1951.

It is also notable that the incidence of abnormal presentations is high, the frequency of breech and face presentation being increased about four times that seen at term.

The causes of death in order of frequency are as follows: prematurity alone (44%), intracranial hemorrhage (23.2%), pulmonary atelectasis (18.6%), erythroblastosis fetalis (4.6%), congenital anomalies (9.4%). The death rate decreases as the weight of the child increases. Bookstaver reports a death incidence of 88 per cent in infants weighing less than 1000 grams, and only 1.2 per cent in those weighing 2250 to 2500 grams. O'Connell reports a fetal mortality of 21.2 per cent in vertex presentation, 37.5 per cent in breech deliveries and 40.7 per cent in cesarean sections. However, it should be added that many of the factors making sections necessary also operate to cause fetal death. Many of the cesareans were done to placenta previa, abruptio placentae, severe toxemias and ruptured uterus.

4. *Prevention of Premature Labor.*

Obviously, since the majority of premature deliveries occur without any known cause, there is nothing to be done; however, some known causes can be eliminated by proper antepartum care and many complications can be properly treated until the fetus has more nearly attained maturity. The causes of prematurity which are preventable or can be controlled with a view to prolonging the intrauterine existence of a fetus, are the toxemias of pregnancy, some cases of placenta previa, cardiac disease, acute infectious diseases, syphilis, and habitual abortion.

a. In toxemias of pregnancy, placenta previa, premature rupture of membranes and breech delivery, the patient is handled in a manner designed to prolong gestation and protect the fetus against anoxia, obstetric trauma and infection. Prolonged antepartum hospitalization is often mandatory. Toxemia cannot always be prevented but it can be controlled. Until the thirty-fourth week of gestation, we are justified in delaying interruption of pregnancy in the toxemic patient if the mother's life is not in jeopardy. After the thirty-fourth week, placental separation or intrauterine death nullifies any gain in maturity. In fact, prognosis for the fetus is poorer after this time. In placenta previa, instead of proceeding with definitive treatment immediately in early cases, patients are hospitalized until six weeks from term. The cervix is inspected but not palpated and rectal as well as vaginal examinations are not made. If labor ensues or severe bleeding recurs, the expectant policy must be stopped. When premature rupture of membranes occurs, the patient is hospitalized. If rupture occurs before the thirty-sixth week of gestation, no effort should be made to induce labor. The patient is given 300,000 units of procaine penicillin intramuscularly daily. If labor has not occurred in 3 - 4 days and the cervix is not dilated, the patient may be sent home and the penicillin therapy continued.

Many authors include syphilis as a common cause of prematurity. Through adequate treatment of syphilis during pregnancy, the incidence of prematurity has become greatly reduced. Philpott reports an incidence of three premature of 41 babies born to adequately treated luetic mothers.

5. *Conduct of Labor and Delivery.*

In the vast majority of cases, the delivery will be by the vaginal route. However, cesarean section has its place in a small group such as certain cases of placenta previa, abruptio placenta, pre-eclampsia in which induction does not seem feasible and the condition of the patient does not justify further conservative management. In certain Rh sensitized patients in which there is a rising antibody titer between the thirty-second and thirty-sixth week, delivery by cesarean section rather than induction of labor is felt to be advisable. In all cases of cesarean section the same general principles with reference to anesthesia, use of oxygen and clamping of the cord for vaginal delivery should be adhered to. In suspected cases of placenta previa, compatible blood should be available prior to vaginal examination and in order to prevent fetal anoxia, the mother should be transfused with whole blood before operative procedures are instigated, if at all possible.

It has often been said that the most important phases of obstetric attention are pre and postnatal care and that anybody can deliver a baby. It can not be denied that the actual delivery is too often dramatized far beyond its true importance. Most parturients will deliver themselves spontaneously and safely within limits, with major interference not often imperative when dealing with term or near term pregnancies. This is far from true when the case is one of premature labor. It is true that proper prenatal care is of great importance in the preventive treatment of premature labor, but there are few phases of obstetrics which require greater skill in plotting and greater determination in carrying out the course than does the management of the premature labor and delivery.

The first principle which must be observed is the avoidance of drugs which will interfere with the initiation and continuation of respiration. Few object to the use of heavy sedation in the event of threatened premature labor, but analgesics or all respiratory depressants should be avoided after the onset of true labor in the period of prematurity. The same must be said for inhalation anesthetics. Few mothers unwilling to tolerate premature labor without analgesia if the problems are properly presented. Most of them are willing to accept whatever pain may be required in order to give the anticipated premature infant the best possible chance of survival. In certain apprehensive patients when the fetus appears moderately small, 50 mgs. of demerol may be given as this drug does not depress respiration in this dosage. Morphine, scopolamine, and barbiturates are all felt to be contraindicated.

Oxygen should be administered if the mother has cardiac decompensation or penumonia, labor is precipitous or the fetal heart becomes irregular, slow or more rapid than normal. It is also recommended that continuous oxygen be given during delivery regardless of the anesthetic agent used.

The fragile skull of the premature infant predisposes to brain injury. Membranes should, therefore, be kept intact as long as possible and oxytocics should never be used once labor is established. Likewise, an episiotomy should always be performed to spare pressure on the delicate head. McCormick's aphorism, "The greater the prematurity, the more generous should be the episiotomy" is generally accepted as the best procedure. The administration of vitamin K to mother and fetus is recommended.

Conduction type anesthesia which includes caudal, saddle and pudenal block is the method of choice by far, and most authors feel that inhalation anesthesia and intravenous pentothal anesthesia are contraindicated because of their depression of respiration. A possible exception to this latter statement is the use of mild cyclopropane anesthesia in conjunction with mecostrine (Abbott's curare derivative). Cyclopropane is not generally used because of its high explosability, but because of the high concentration of oxygen in the gas mixture it does not depress respiration as do other forms of inhalation anesthesia. The use of mecostrine further reduces the amount of anesthetic agent required as well as affording good perineal muscle relaxation. In general, conduction anesthesia is much to be preferred and infant mortality is consistently at least 100 per cent lower than that in the non-conduction group. Under caudal and saddle block, the premature infant is protected both during and after delivery. The first stage of labor under these methods of anesthesia is somewhat slowed. The premature head with soft skull cap and widely separated cranial sutures responds unfavorably to the excessive pressures of the usually rapid labor associated with premature delivery. Under conduction anesthesia, tendencies to precipitous labor or delivery disappear.

When cervical dilatation is complete and the premature head reaches the perineum, the patient is draped for delivery and continuous 100 per cent oxygen started. There is considerable difference of opinion as to the use of low or outlet forceps. It is agreed that mid forceps extraction or rotation should not be used in premature deliveries except in rare emergencies. Masters and Ross favor use of forceps to gently and easily guide the head over the relaxed perineal floor. Pomerance and Steiner report a higher neonatal death rate (18 per cent) in spontaneous vertex deliveries than in delivery by low forceps (8 per cent). Closer analysis of their series showed no appreciable difference in the mortality rates for either method, for the higher mortality rate in the spontaneous group was due to a larger number of infants weighing less than 1000 grams and consequently were considered previable. Lock, Greenhill and others prefer to use gentle Kristellar expression by fundal pressure.

Breech and twin deliveries demand special attention. Best results are obtained in breech presentation by allowing delivery to proceed spontaneously up to the umbilicus before giving assistance with delivery of the shoulder and head. It is important to establish a clear airway for the baby, make a deep episiotomy and then extract the head slowly using Piper's forceps if necessary. With twins, whenever possible, it is wise to wait 15-20 minutes to see if the second twin will be delivered spontaneously. This is far safer for the baby than delivery by version and extraction.

As soon as the head is delivered in all vertex deliveries, it is important to immediately aspirate mucus from the naso-pharnyx in order to establish a clear airway for the baby as well as to prevent aspiration of fluid substance into the lungs. Then the body of the fetus is delivered. The cord should not be clamped until all pulsation has ceased because the 30-60 cc. of blood received in two or three minutes is extremely important to the premature infant. This procedure is also recommended in the event of cesarean section when a general anesthetic agent is not being used. The infant should then be placed immediately in a pre-warmed incubator and continuous oxygen administered. If prematurity is great, it is well to give oxygen by nasal mask in addition to the incubator supply. If possible, it is best to have a qualified pediatrician in attendance at all premature deliveries.

6. *Neonatal Complications.*

As previously stated, pulmonary atelectasis and intracranial hemorrhage are the two most common causes of death aside from prematurity alone. The development of the spastic child is a well known and familiar tragedy to all of us. In recent years, another hazard of serious importance has been receiving more study. This is the condition of retrolental fibroplasia. Specific pathological alterations may occur in the eye of premature infants. They ultimately result in the formation of a grayish white connective tissue membrane in the anterior vitreous. The disorder is usually bilateral, useful vision is markedly impaired and partial or total blindness results. No known etiological factor has been found with the possible exception of maternal rubella. At present, there is no proved effective treatment; however, experimental work is being done with ACTH and cortisone. Encouraging reports have been given if treatment is started early, consequently it is imperative that all premature infants have ophthalmologic examination at regular intervals during the first few months of life.

SUMMARY

1. A brief discussion of prematurity has been given.
2. Prophylactic measures have been discussed. Postponement of interruption of pregnancy in certain complications of pregnancy to the 34th week of gestation is recommended whenever possible.
3. Drugs which will depress respiration should be avoided during labor.
4. Conduction anesthesia is the method of choice for delivery.
5. Rupture of membranes should be delayed as long as possible in order to protect the fragile premature cranium.
6. Routine episiotomy and delayed clamping of the cord are essential.
7. The use of low forceps is an optional procedure.
8. Continuous oxygen and free use of blood are advisable for the slightest indication.
9. Retrolental fibroplasia demands more attention in the after care of premature infants.

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SAMA JUNE CONVENTION PROGRAM SET

Panel discussions devoted to doctor draft, general practice and SAMA chapter activities will highlight the third annual convention of the Student American Medical Association. More than 1,000 registrants are expected to attend the meeting June 15, 16 and 17 at the Edgewater Beach Hotel, Chicago.

DOCTORS HELP SUPPORT MEDICAL SCHOOLS

Nearly 37,000 physicians contributed more than $3,150,000 in direct support of medical education last year. This total, however, does not include amounts given for buildings, endowments, scholarships, research and other special purposes. Dr. Donald G. Anderson, secretary of the AMA's Council on Medical Education and Hospitals, announced that reports from 76 of the country's 79 medical schools indicate that more than 29,000 doctors gave $2,258,534 directly for teaching budgets.

NEW DRUGS NEW DEVICES NEW DIGESTS

NEW PRODUCT: Cortisone Acetate, 10 mg., compressed tablets.

WHAT IT'S FOR: In adjusting the maintenance dose level in cortisone therapy, and for providing small increased dosages during periods of stress.

HOW SUPPLIED: Bottles of 24 tablets, $3.60.

WHO MAKES IT: The Upjohn Company.

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NEW PRODUCT: Methischol Injectable, synergistic formula combining choline, methionine, inositol and vitamins B_{12} and E in sterile solution for intramuscular or intravenous injection. Each 2 cc. provides

Choline chloride	200 mg.
dl-Methionine	50 mg.
Inositol	100 mg.
Vitamin B_{12}	6 mcg.
Vitamin E	30 mg.

WHAT IT'S FOR: Indicated in liver disorders, diabetes, hyper-cholesterolemia, coronary disease, atherosclerosis, alcoholism, nephrosis, hypertension. Helps normalize cholesterol and fat metabolism and may prevent deposition of cholesterol in intima of blood vessels; in liver disease, helps increase phospholipid turnover, reduces fatty deposits, and stimulates regeneration of new liver cells.

ADMINISTRATION: Intramuscularly 2 cc. should be injected slowly into the gluteal muscle or deep in the outer aspect of the thigh, changing the site for each injection. Intravenously —the contents of a 2 cc. ampul should be added to not less than 250 cc. of intravenous glucose or saline and administered by drip over a period of not less than thirty minutes. Not to be injected intravenously undiluted. If more than 2 cc. are injected intravenously, the dilution and injection time should be proportionate. Warning: If any cholinergic reaction supervenes, the injection should be stopped immediately.

HOW SUPPLIED: In 2 cc. ampuls, boxes of 6, 25 and 100. 10 cc. ampuls, boxes of 1, 6, 25 and 100.

WHO MAKES IT: U. S. Vitamin Corp.

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NEW PRODUCT: Alevaire, an aqueous solution of a new detergent, triton WR-1339, 0.125%, in combination with sodium bicarbonate 2%, and glycerine 5%. Alevaire is administered by means of any standard aerosol or nebulizer technic. Average daily dose is one bottle of 500 cc. by continuous aerosolization.

WHO MAKES IT: Winthrop-Stearns.

WHAT THE PRODUCT IS: Bacitracin is an antibiotic isolated from cultures of Tracy I of B. licheniformis.

WHAT IT'S FOR: Bacitracin Parenteral is effective against a broad range of gram-positive organisms and is often useful in treating infections due to penicillin—resistant strains.

HOW SUPPLIED: It is supplied as a light lemon-colored dry powder in Steri-Vials No. 107, each containing 50,000 units of Bacitracin, for use in preparing sterile solutions for intramuscular administration to hospitalized patients only.

WHO MAKES IT: Parke, Davis and Company, Detroit.

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NEW PRODUCTS: Pro-Banthine, Searle's new anticholinergic drug for the treatment of peptic ulcer and gastrointestinal hypermotility of other parasympathotonic conditions.

Diodoquin Powder, protozoacide and fungicide for the topical treatment of skin infections, and

Dramamine Supposicones, for patients who, because of the severity of their symptoms, are unable to take the drug orally.

WHO MAKES THEM: G. D. Searle and Company.

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NEW PRODUCT: Covicone Cream (Abbott's Protective Skin Cream).

DESCRIPTION: A special plasticized combination of silicone (dimethylpoly-siloxane), nitrocellulose and castor oil in vanishing cream base.

INDICATIONS: Protection of skin from occupational dermatoses, such as sensitivity of chemicals, paints, dyes and cutting oils; everyday contact skin allergies, such as soap and water dermatitis and sensitivity to cosmetics, clothing dyes and pollens; inflammation from body fluids, as occurs with ileostomies, colostomies, gall bladder drainage tubes, persistent diarrhea and decubitus ulcers; and protection from scratching and further irritation of dry eczematous and neurodermatitic lesions.

APPLICATION: Twice daily for ten days to two weeks to build up protective layer. Continued protection can then be maintained with a single application every one or two days.

WHO MAKES IT: Abbott, in one-ounce tubes with slip-off labels, and in one-pound jars.

Fifty Year Club Biographica

LEWIS HENRY HIGHTOWER

DR. HIGHTOWER

On June 22, 1872, in what is now Grenada County, Lewis Henry Hightower, son of Jesse and Sarah Townsend Hightower, was born.

He attended Abbeville Normal, graduating in 1894, and then in 1899 graduated from Vanderbilt School of Medicine and later did postgraduate work at Tulane Medical School. When he graduated from Vanderbilt University Medical School, he received the Founder's Medal.

On August 15, 1948, the Fifty Year Club of the State Medical Association honored Doctor Hightower with lifetime membership.

Doctor Hightower, who is located at Itta Bena, is actively interested in medical progress. He has served his neighbors and the people in his community faithfully and well and has brought honor to himself and the profession.

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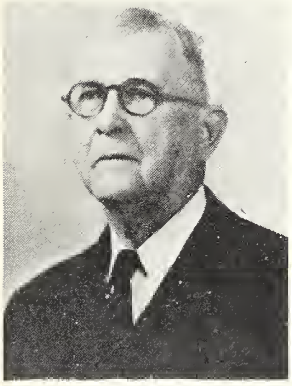
JAMES PETER HITT
(deceased)



DR. HITT

On June 13, 1860, James Peter Hitt, son of Peter Carter and Elizabeth Williamson Hitt, was born in New Albany, Mississippi.

He received his medical education at the Memphis Hospital Medical College (now the University of Tennessee) graduating in 1899.

In September, 1948, Doctor Hitt was honored at a community-wide celebration in recognition of his many years of service to the people of Tunica County and surrounding areas. And, on September 12, 1948, the State Medical Association honored Doctor Hitt with lifetime membership in the Fifty Year Club.

Doctor Hitt was charter member and past president of the Sixth District Medical Association. He began his practice of medicine in New Albany, Mississippi.

On March 12, 1950, Dr. Hitt passed away and was buried in the Holly Springs Cemetery, Holly Springs, Mississippi.

A lifetime spent in service for humanity stands as a monument to those who have passed on. Doctor Hitt served faithfully and well and will long be remembered by those who knew the power of his healing and loved and trusted him. Doctor Hitt placed his profession next to his religion and his love of medicine and humanity was the secret of his success and endeared him to all with whom he came in contact.

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HARBERT CLAUDE OWEN

DR. OWEN

On February 15, 1878, Herbert Claude Owen, son of William Jasper and Lucinda Hughes Owen, was born at Durant, Mississippi.

He received his M.D. degree from Memphis Hospital Medical College (University of Tennessee), March, 1902.

In 1906, he located at Patmos, Sharkey County, and later about 1915 at Holly Bluff.

Doctor Owen served as Master of the Masonic Lodge No. 42, Yazoo City, 1937, and also is past master of Concordia Masonic Lodge, Gunnison. He is an honorary member of the Deer Creek Lodge of Rolling Fork. He has served on the county welfare board since its organization twelve years ago. He is a Shriner, member of the Methodist Church (formerly serving as superintendent of the Sunday school) and is now teacher of the Men's Bible Class and member of the board of stewards.

On September 2, 1952, the Fifty Year Club of the State Medical Association honored Doctor Owen with lifetime membership. He received the Golden Certificate Award from the University of Tennessee on September 29, 1952 for fifty years of service.

Only recently, the Holly School honored him with appropriate services and placed his picture in the school clinic.

On his seventieth birthday, the Holly Bluff community honored Doctor Owen with an elaborate party. And, on September 25, 1952, the community sponsored a "Golden Tea Party" at which time an easy chair and a wallet containing a nice check were presented to him.

Still interested in the practice of medicine, Doctor Owen, who lives at Holly Bluff, has demonstrated throughout the years his sincere desire to serve his fellowman faithfully and well and has brought honor to himself and the profession.

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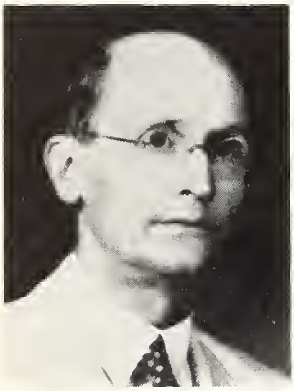
WALTER EUGENE CLARK


DR. CLARK

Walter Eugene Clark was born in Kemper County on October 14, 1874.

After finishing high school, he attended Normal College at Dixon, Tennessee.

He received his M. D. degree from the University of Nashville, March 24, 1897. He has practiced at Pea Ridge (1896), Hopewell (1898) Georgetown (1912), Jackson (1918) Whitfield (1936) and later at Philadelphia.

For twenty years, Doctor Clark was affiliated with the Mississippi State Hospital and for eighteen years, served as assistant superintendent and clinical director. He did general practice before specializing in psychiatry.

Doctor Clark is a Mason and an active member of the Baptist Church.

On November 17, 1948, the Fifty Year Club of the State Medical Association honored him with lifetime membership.

The welfare of mankind has always been of great concern to Doctor Clark and he continues to contribute to the upbuilding of medicine in Mississippi.

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NASH WOODS BROYLES

DR. BROYLES

On January 3, 1873 Nash Woods Broyles, son of Dr. and Mrs. E. S. Broyles, was born at Hamilton (Monroe County), Mississippi.

He attended Mississippi State College and received his M.D. degree from Tulane University in 1898 and later did postgraduate study at New York Polyclinic and School of Medicine.

In 1898, he located at Columbus, and in 1907 at Crawford. Later, he moved to Arkansas and in 1925 located at Hamilton.

On November 5, 1948, the Fifty Year Club of the State Medical Association honored Doctor Broyles with lifetime membership.

At present, Doctor Broyles resides at Route 3, Jackson. He has made a vast contribution to the practice of medicine in Mississippi and is held in high esteem by his many friends and professional associates.

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WILLIAM BUTTS DICKINS
(deceased)

DR. DICKINS

William Butts Dickins was born in Batesville, Mississippi, April 25, 1871. He was the son of W. W. and Anna L. Dickins.

In 1893, he received his B. S. degree from Mississippi College, Clinton, and in 1896, his M. D. degree from Louisville Medical College.

He began practicing in Greenwood (Leflore County) 1896; later moved to Money (1898) and returned to Greenwood in 1904 where he practiced until his death.

Doctor Dickins was past-president of the Delta Medical Society, charter member of the Rotary Club, vice-president of Building and Loan Association of Greenwood and for many years was chairman of the Board of Deacons, Greenwood Baptist Church. In 1922, he served as secretary of the Leflore County Medical Society.

His picture was placed in the Hall of Fame, Mississippi College, fifty years following graduation. He also received a fifty-year certificate from Louisville University.

During his years of active practice, Doctor Dickins delivered more than 2,000 babies and during his practice in rural areas, years ago, he sometime travelled on horseback.

In August, 1949, Doctor Dickins' many friends presented him with an automobile in celebration of his 50 years of practice and service to his community.

On August 15, 1948, the Fifty Year Club of the State Medical Association honored Doctor Dickins with lifetime membership.

A medical career of great usefulness was brought to a close on March 16, 1952, when Doctor Dickins passed away in Greenwood and was buried in the Odd Fellows Cemetery, Greenwood. In every phase of his long record of service to humanity, he exemplified the highest type of leadership and brought honor to himself and the profession as a practitioner of medicine.

SAMUEL EMERSON COOPER

(deceased)

DR. COOPER

Samuel Emerson Cooper, son of J. W. and Emma Gordon Cooper, was born in South Carolina, September 22, 1873.

In 1897, he graduated from the University of Nashville and did postgraduate work in New York at the Polyclinic.

Doctor Cooper served as director and vice - president of the Bank of Water Valley and also as district physician and surgeon for the Illinois Central Railroad for over fifty years. He was an elder in the Presbyterian Church, Water Valley.

In March, 1897, he located in Water Valley and practiced there continuously until the time of his death.

On September 6, 1948, the Fifty Year Club of the State Medical Association honored Doctor Cooper with lifetime membership.

A life of great usefulness was brought to a close on March 30, 1951, when Doctor Cooper passed away in Memphis, Tennessee, and was buried in Oakhill Cemetery in Water Valley. For more than fifty years, Doctor Cooper ministered tirelessly to the people of his community and held many positions of trust and confidence. His service to humanity was without limit and will long be remembered.

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ELMORE BENJAMIN KEY

(deceased)

DR. KEY

Elmore Benjamin Key, son of Mr. and Mrs. C. L. Key, was born September 13, 1877 near DeKalb, Mississippi.

He attended elementary schools in Kemper and Lauderdale Counties and also Cooper Institute and Iuka Normal. Later, he entered the study of medicine at Atlanta, Georgia, and studied there for 1901. He took postgraduate courses at Tulane School of Medicine, New Orleans, Louisiana and other places.

Doctor Key practiced medicine in Meridian for thirty years. Prior to locating in Meridian, he had practiced in Kemper County.

For four years, Doctor Key served as superintendent of Matty Hersee Hospital, Meridian, and for twenty-two years, was medical examiner for the Civil Aeronautics Administration.

He was a member of the John L. Spinks Masonic Lodge, Meridian, and also a faithful member of the Baptist Church.

During his long span of practice, Doctor Key delivered more than three thousand babies.

On June 1, 1951, the State Medical Association honored Doctor Key with lifetime membership in the Fifty Year Club.

Following a career of great usefulness, Doctor Key passed away in Meridian and was buried in Magnolia Cemetery, Meridian.

The gentle kindly spirit of Doctor Key will live on forever. His greatness lay in his simple and helpful ministrations to those in distress. His quiet concern for all humanity lives in the hearts of thousands he comforted and gave an incentive to live the more abundant life.

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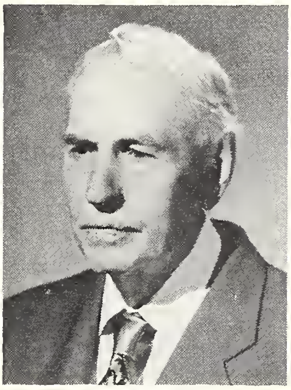
JOHN ROBERT KITTRELL



DR. KITTRELL

John Robert Kittrell, son of John W. and Martha Weatherford Kittrell, was born in Lauderdale County, Mississippi, December 12, 1866.

He attended Cooper's Institute graduating in 1888 and taught school for several years before entering the Medical Department of the University of Tennessee from which he graduated in 1895. Following graduation, he did postgraduate work at New Orleans Polyclinic and New York Polyclinic.

Doctor Kittrell located at Myrick, where he practiced nine and one-half years and then moved to Cleo for three years before locating in Laurel. Before retiring, Doctor Kittrell had practiced almost fifty-five years.

A charter member of the Jones County Medical Society, Doctor Kittrell served as president and also as secretary-treasurer for many years. For two years, he served as county health officer and was the first local registrar of vital statistics in Jones County.

After fifty years of practice, Doctor Kittrell received the Golden T from the University of Tennessee.

In 1952, the Fifty Year Club of the State Medical Association honored him with lifetime membership in the club.

Diabetes, a Public Health Problem

GUEST EDITORIAL

FELIX J. UNDERWOOD, M.D.
Mississippi State Health Officer — Jackson

Public Health deals with "the prevention of disease, the prolongation of life, the promotion of mental and physical well being through organized community efforts." Since diabetes is a disease which lends itself in several respects to control through "organized community efforts" and since it occurs among large numbers of people, it becomes one of the many public health problems.

The success of any public health program hinges on the fact that people are educable—that people can be taught what to do and what not to do in order to avoid certain diseases. Diabetes falls under this classification. People can be taught that there is an inherited tendency toward diabetes and that the disease is more prevalent among the overweight. Thus, potential diabetics are made aware of this possible danger to their health and will know to seek medical advice early, should symptoms of the disease develop.

There are further opportunities for early detection of this disease through the mass case-finding facilities afforded through public health. The individual who has a blood sugar that is higher than normal or who shows sugar in his urine could be determined. Such individuals would, of course, be referred to doctors of their own choosing for further study.

It is by no means in the scope of public health activities to make a final diagnosis or to treat diabetes. Diagnosis and treatment are the responsibilities of each individual's own physician. Surely, however, it is within the scope of public health to use its facilities in the ways already mentioned as aids to early diagnosis by a private physician.

Each detection of diabetes is of the greatest value to the diabetic and to the doctor who treats him. Not only does it lessen the possibility of losing a limb or vision, but it also makes easier the doctor's job of regulating diabetes. Early detection often makes possible less rigorous treatment of the newly detected diabetic than would be possible if this condition had been ignored until "full blown" diabetes had developed.

The educational facilities of public health are of further value in diabetes control in that education of the diabetic aids him in better self-care so that he may avoid its crippling complications.

Public health procedures in diabetes should be: 1) finding individuals who have diabetes and requesting, even urging, that they see the doctor of their choice immediately; 2) education of the diabetic so that he may better follow his doctor's orders. This he must do if he is to live and work with diabetes; 3) postgraduate seminars on diabetes for special information to the medical profession in the newer knowledge of diabetes diagnosis and treatment. These should be conducted by physicians who specialize in the diagnosis and treatment of diabetes; 4) the publication from time to time of factual information regarding "quack" cures for diabetes and warning against their acceptance by any diabetic.

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ABSTRACT FROM PEDIATRIC LITERATURE

Harvey F. Garrison, M.D.

A Rare Case of Acute Congenital Syphilitic Meningitis (Sur Un Cas Rare De Meningite Luetique Congenitate Aigue). F. Stathopoulos, Athens, Greece. Ann Paediat. 176:385-89, June, 1951.

The author reports the case of a male infant admitted to the hospital with symptoms of meningitis. Lumbar puncture showed the spinal fluid to be clear but under increased pressure. Cultures were negative. The diagnosis of syphilitic meningitis was based on the strongly positive Wassermann reaction of both the blood and spinal fluid and on the presence of characteristic syphilitic bone lesions, revealed by x-ray examination. Penicillin given in large doses, a total of 5,800,000 units by intramuscular injection and 90,000 units by intraspinal injection, had no favorable effect, the child became progressively worse and died on the nineteenth day after admission to the hospital. This form of acute congenital syphilitic meningitis is rare. The failure of penicillin therapy is also noted. 7 references. 1 table.

This is a very strange and rare condition. We are inclined to agree with the author as to the treatment of this case and would have likely done the same thing. Doubtless this case was so rapid in its severity and terminated so quickly that the author had little time to study the case and have all the necessary blood cultures, as well as spinal fluid cultures which might have indicated a more progressive type of infection than the luetic infection.

The Mississippi Doctor

The journal with a vision which encourages a plan of delivering modern medicine to the masses at less cost to the individual and more profit to the practitioner. It champions the community hospital, the hub around which this service must be built.

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Editorials

ANALYSIS OF NURSING EDUCATION IN MISSISSIPPI

(Contributed)

The need for nurses in Mississippi is greater than in any other state in the union. According to the latest statistics there are fewer nurses per thousand people in our state than any other. As more and larger hospitals are put into operation, the need for nurses becomes greater. The increase in technical knowledge and modern facilities is certainly raising the health standard of the people of our state. The population as a whole is becoming more health-minded and expert care is in great demand. As we continue to exert every effort to offer the best in medical service there will be an increasing demand for skilled nurses.

Advances have been made in every field of education in recent years, the offer of a better education enticing youth in greater numbers to attend the colleges and universities. Nursing education has not kept stride with the progress made in other fields of study; nor has the nursing profession been aided by the attraction that more and better nursing schools would give. Good nursing schools conveniently located throughout the state would therefore encourage more good students to pursue nursing.

The majority of the one hundred and eighty-two (182) hospitals in the state, not classified as large institutions as compared to the hospitals in more metropolitan areas, are scattered over the vast area of the state as the populace has demanded. Their presence indicates that the potential is there to support them in most cases. Their size and location has no parallel in other states, for Mississippi's many small hospitals are planned to give the best in hospital service as near to the patient's home as possible. The small urban location and the moderate size of our hospitals pose a significant challenge to nursing education.

High and gratifying standards have been set up for nursing schools. But the cost of running a well-regulated nursing school with high standards is almost prohibitive. It is no longer feasible to depend for financial support upon money collected from the patients, as did many schools in the past. Nursing schools should receive every consideration for financial support from all the sources that other institutions of higher learning enjoy. We cannot expect to receive a dollar in return for every dollar spent on nursing education. This is true for money spent on any field of education. Nursing schools are the responsibility of the people as a whole, just as are the public junior colleges.

Our state-wide system of junior colleges, devised and put into operation the past few years, is unexcelled. Located throughout the state so as to be accessible to potential students, these institutions for education are supported by several counties joined together in districts, their youth transported daily to and from their homes. These junior colleges offer all of the basic courses needed by a student nurse in the first few months of training.

Although we face no insurmountable obstacles, the shortage of nurses will not be alleviated by time alone. There is a tremendous amount of work to be done to organize and equip nursing schools necessary to meet our needs. Every member of the medical team should face this need objectively. We owe it to the people to display leadership in our search for the answer to the problem.

There should be a study made to determine the location and size of nursing schools needed. Let us investigate the possibility of getting financial aid for nursing schools through educational channels. Let us unite ourselves together in groups large enough to have the combined potential sufficient to support a school. We should bear in mind that affiliation with large hospitals is possible, obviating a broadened scope of training and experience for nursing students. The junior colleges are in a state of readiness to help with the teaching of basic subjects required. It is the right combination of know-how and facilities which already exist which offers the most economical solution.

It is possible for it to be as easy to attend nursing school as to go to junior college. When we make it that easy for our young women to attend nursing school, our problem will be solved. Let us exploit the possibilities. We have a shortage of nurses now but there is no reason why it should continue. If we do not have sufficient nurses ten years from now, it is likely that the people who bear this responsibility for leadership in nursing education have been content to remain lethargic. The public will support a sound program for nursing education. Let us give it our best.

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DR. LIPSCOMB

The death of Dr. J. W. Lipscomb of Columbus took from our midst one of the state's most outstanding citizen-physicians. He lived to be fourscore and four years. Three generations of the Lipscomb family rendered 121 years of service to the people of Lowndes County, where Dr. Lipscomb was born. He served well as president of the State Board of Health for many years. He was an able practitioner, sound and safe, while also practicing Christian citizenship.

Dr. Lipscomb was one of the outstanding orators of the medical profession in Mississippi. His eloquence was activated by a logical mind and a versatile education. It was good to know him as a friend. Organized medicine profited much by his life, which was a benediction to his entire state.

THE COAST BECKONS

We have many medical meetings which serve many fine purposes, but the state meeting is one of greatest importance. The Mississippi State Medical holds its annual session this year on the Coast at the Buena Vista Hotel. The business of the meeting should stimulate the interest of every doctor, who owes a certain amount of time to organized medicine. In his county, district, and state meetings he makes his contribution to organized professional interests. At the state meeting every doctor has an opportunity to hear and be heard. The scientific papers are important. The fellowship renews in spirit and resolve. Doctors' Day luncheon put on by the Woman's Auxiliary is worth the trip. It gives the doctors a chance to get acquainted with their wives and see them promoting the finest adjuncts to professional life.

The Mississippi Coast, the playground of the mid-South, beckons with rest and refreshing environment. Dr. E. C. Parker is the father of the Coast medical group, which includes many fine men in practice, liberal in giving their time for organized medicine. Let us make the state meeting. May 12-14, the best in its history.

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PLANNING PROGRAM

The Mid-South Postgraduate Medical Assembly which holds its annual meeting in Memphis at the Peabody Hotel in February is the premier of many similar meetings. It is still the very best. Here in four days and nights you can get a fine review of the latest and the best in medicine and surgery. The recent meeting was one of the best in the history of this association. Plans are already under way to make next session still better. Dr. Thurman Crawford, the able secretary, has had the program committee together for active planning of the next session. The doctors of the mid-South love this meeting. They love the service it gives, they enjoy the fellowship it provides, and they respond to the medical atmosphere of Memphis and feel the throb of the onward march of progress.

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The eyes of progress of the nation are on Mississippi, and the eyes of the march of medicine are turning our way.

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The editors of the *Mississippi Doctor* are very grateful to many doctors in the state for words of appreciation for the service this journal is rendering for the state and the mid-South area.

Groundbreakers turn the first earth for Baptist Memorial Hospital's thirteen-story addition in a ceremony on the site March 15.

Left to right, Dr. Paul A. Wieland, chairman, executive committee, board of trustees; Dr. Frank S. Groner, administrator; Hays E. Owen, president, board of trustees; Jim Wright, Jr., representing the more than 65,000 babies born at the hospital; Dr. Jim Wright, who interned at the hospital; Walter Chandler, chairman of the hospital's Advisory Committee and representing civic interests; Dr. Robert G. Lee, former president of the Southern Baptist Convention, representing Baptist pastors in the area; Dr. Charles B. Olim, chief of the hospital's medical staff; Dr. Francis Murphey, president of the medical staff, both representing the medical profession; V. L. Simmons, personnel director and employee for 23 years, representing the hospital's 1100 employees; Mrs. Nina M. Basham, director of nurses, representing the nursing profession; Dr. Herbert Gene Lanford, acting chief resident, representing the doctors who are and have served their internships and residencies at the hospital; Martha Bell, president of the student council in the School of Nursing, representing the 300 student nurses; Mrs. J. P. Clancy, daughter of A. E. Jennings, representing her late father, ardent supporter of the hospital for 31 years; Mrs. H. P. Hurt, wife of the late Dr. Hurt, representing her husband, who first publicly expressed a plea for a new hospital and served as chairman of the building committee when plans were mapped for the original building.

TENNESSEE STATE MEDICAL ASSOCIATION

The annual meeting of the Tennessee State Medical Association will meet in Memphis April 13, 14, 15, and 16, at the Hotel Peabody. The general scientific sessions will be held in the ballroom of the Peabody. Dr. R. H. Kampmeier, chairman of the program committee, announces that two symposia and a dozen guest essayists will bring new material on chest diseases, dermatology, internal medicine, obstetrics, cardiac surgery, general surgery, geriatrics, and disturbances in electrolytes.

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WHERE THERE'S BLOOD, THERE'S LIFE!

You can be sure . . . where there's life, there's blood! While you've got your gallon and a half of blood circulating through your body, it doesn't always seem too important to share just a small part of it to help save someone else's life. As a matter of fact, your own life could well depend on having a couple pints of blood tomorrow, next week or perhaps next year. If you do need a pint of life, you'll want it quick and ready at hand . . . without fail or waiting.

Most people want it that way too . . . strongly enough to donate their blood on a regular schedule, several times a year. These are the people who are protecting your life. They expect the same protection from you . . . from the blood that YOU donate. Your blood also makes possible the production of derivatives such as plasma, serum albumin and gamma globulin. *It all means life, not only to you and your family, but to thousands of people all over the country.*

The future of American freedom and well-being depends on everyone sharing in the vital job of providing adequate supplies of blood. We must save lives of our wounded fighting men, provide for everyday civilian needs, and build a reserve for civil defense use in case of attack. Over 5,000,000 pints are needed this year alone. *This is a job for real red-blooded Americans.*

To be sure, where there's blood, there's life . . . perhaps yours! Make sure your blood is there wherever it is needed. *Call your local Red Cross, Community or Armed Forces Blood Center today to schedule a donation.*

News and Comment

WASHINGTON COUNTY OPENS NEW HOSPITAL

March the 6, 1953, was a great day for the city of Greenville, and it marked another milestone in the march of medicine in the state of Mississippi, for it was the day that Washington County General Hospital officially opened its doors. A two-hundred-bed hospital, it is located in the city of Greenville.

Greenville has a population of 35,000 to 40,000, in a county of 70,000, with 39 per cent native white and 59 per cent Negroes. The city claims to be the third or fourth city in population in the state. Lying in one of the richest delta areas on the earth, it is a city of vision, warm in heart and invigorating in spirit. It has produced several personalities of national note, prominent among them now is Editor Hodding Carter.

In the medical field the city is keeping to the front. More than fifty doctors in this city are on the staff of the new and modern hospital. As the mentor of medicine in this group stands Dr. Hugh Gamble. The medical spirit is largely the Gamble spirit. The Gambles moved from the west of Guntown, in the hills of northeast Mississippi, from a home formerly occupied by the beloved Doctor E. M. Holder family. Along with the Gambles are other outstanding medical men in Greenville, Archer, Berry, Montgomery, the progressive-citizen-doctor Frank Acree, and many others.

The civic clubs of the city did a nice thing in entertaining the visitors and others at the Greenville Hotel for lunch. A large crowd was present and everything moved along in fine order. Governor White was the chief speaker and as usual he made a fine address. He also spoke at the dedication on the hospital grounds at two o'clock. He discussed progress in general in the United States and especially in Mississippi and gave a fine review of medical progress for the last fifty years. The medical profession acknowledges with appreciation the governor's deep interest in the health of the people. He is a friend to all medical interests within the state's boundaries.

The new Washington County Hospital is the last word in modern medical service facility. A four-story building with one hundred beds for white and one hundred for colored, this hospital is ably staffed, has two fine administrators, J. B. Franklin assisted by Mr. Purser, with Mrs. Ruth McDonald as director of nurses. The hospital will be a further asset to our state in training nurses, both white and colored. We believe it will be an asset to our four-year medical school in training interns and in helping to do research work. It is especially well equipped to do autopsies. We understand that it might consider utilizing a specially trained pharmacist as a consultant to the doctors.

Cordial congratulations to Washington County and the rapidly growing city of Greenville for their great new medical facility.

DR. HUGH A. GAMBLE, Chief of Staff, Washington County General Hospital

Doctor Hugh Agnew Gamble was born in Saltillo, Lee County, Mississippi, in 1876. He moved to Guntown in 1892 and lived in this vicinity until he entered Mississippi A and M College (now Mississippi State) in 1894. He was graduated in 1898 and, with all of the members of his class, enlisted in the Mississippi State National Guard because of the Spanish-American War which was then in progress. He was mustered out of the military service at Columbia, Tennessee, in December of 1898 and entered the Medical School at Vanderbilt University in January of 1899. He attended this school for two years and served two years as intern at the Natchez Charity Hospital. He then entered Tulane University School of Medicine and received his M.D. degree from this institution in 1904. He served as intern at the Charity Hospital of Louisiana at New Orleans for two years, following which he practiced medicine at Bougere, Louisiana, until 1907. Since August 16, 1907 he has practiced medicine and surgery in Greenville, Mississippi.

He was a charter member of the American College of Surgeons when it was formed in 1913. He is a member of the Southeastern Surgical Congress, Southern Surgical Association, the American Association of Railway Surgeons, the American Association for the Study of Goiter, and the Founders' Group of the American Board of Surgery. He served as president of the Mississippi State Medical Association in 1929 and in 1951 he received the first award for distinguished service presented by the Mississippi Division of the American Cancer Society.

His publications include work done on the open wound treatment of potentially infected abdominal wounds, the prevention of post-operative phlebitis and pulmonary embolism, and the role of obstructive enterostomy in the treatment of obstruction of the small intestine, as well as several other subjects.

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ALCOHOL CONSUMPTION INCREASE

Official records show that alcoholic beverage consumption in the U.S.A. has increased 124.6 per cent from 1934—1952, while the consumption of alcohol in these beverages has gone from 0.53 gallons, per capita in 1934, to 1.39 gallons, per capita in 1952, an increase of 162 per cent, declares the American Business Men's Research Foundation, in making public an appraisal of records since the repeal of the 18th Amendment.

Although there has been some fluctuation during the past 18 years, beer consumption, which was only 7.90 gallons in 1934, has made an increase of 115 per cent, (to 16.95 gallons in 1952). This represents a drop of nearly 3 gallons per capita (2.91 gallons), as compared with the peak year of 1945.

Wine consumption, however, has broken all previous records of per capita consumption, making an upward leap of more than 507 per cent increase 1934—1952. In 1934, wine consumption was recorded as 0.14 gallons per capita. By 1952 however, with slight fluctuations, this reached a per capita of 0.85 gallons, a more than 507 per cent increase in the first years of the repeal period.

As far as whiskey, and its intimate, though minor, relations, brandy, rum, and gin are concerned, they have registered, from 1934 to 1952, an overall 203 per cent increase in per capita consumption, although from 1946 to 1952 there has been a drop from 1.39 gallons to exactly 1 gallon in the latter year according to the official records.

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NORTHEAST MEDICAL SOCIETY

The Northeast Mississippi Medical Society held its first quarterly meeting in Columbus on the second Tuesday in March, an unusually fine scientific session being presided over by President Guyton. The Columbus doctors and their wives were most cordial hosts, entertaining the group for dinner at the Columbus Air Base.

The June meeting will be held in Booneville and the September meeting will go to Aberdeen. The December meeting returns to Tupelo for the annual climactic program of the year.

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MISSISSIPPI STATE SOCIETY OF MEDICAL TECHNOLOGISTS

Sixth Annual Session, April 10 and 11
Heidelberg Hotel

"Collection and Handling of Speciments for Laboratory Examination" — Dr. H. C. Ricks, Jackson.
"The Rh-Hr Factors as applied to Blood Banking" — Mr. Richard L. Berry, New Orleans, La.
Film "Operation Blood Bank" — Mr. Tom Quigley, Cutter Laboratories.

Friday Night, April 10, 1953

Open House — Silver Room.

Saturday Morning, April 11, 1953

Address of Welcome — Dr. Onnie P. Myers, Jackson.
Remarks by the President — Miss Janie P. Smith.
"Virus Hepatitis" — Dr. Kenneth Heard, Jackson.
"Morphology of Blood Cells" — Dr. L. W. Diggs, Memphis, Tenn.
"Liver Disease" — Dr. E. M. Meek, Greenwood.
"Old and New Problems in the Clinical Lab" — Dr. Hans N. Naumann, Jackson.

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X-RAY TECHNICIANS TO MEET

The first International Convention of X-ray Technicians, will meet in the Royal York Hotel, Toronto, Canada, June 28 through July 2, 1953. This convention is sponsored jointly by the Canadian Society of Radiological Technicians and the American Society of X-Ray Technicians.

Refresher Courses are offered for two hours each morning. Eight courses will be presented, four by Canadian and four by American instructors.

The afternoon sessions will be devoted to joint sessions at which time technical papers and essays will be presented by technicians of both societies and by distinguished radiologists on invitation.

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THE AMERICAN COLLEGE OF ALLERGISTS

The annual conclave of the American College of Allergists will be held this year at the Conrad Hilton Hotel in Chicago April 24 to April 29.

The first four days will be devoted to instruction under the tutelage of recognized authorities and the last three to a discussion and reporting of recent advances in the field of allergy by the investigators themselves. For detailed information write The American College of Allergists, La Salle Medical Building, Minneapolis 2, Minnesota.

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PRACTICE FOR SALE: New Augusta, Mississippi. Must do own dispensing. No doctor, no druggist. Price—Inventory of Supplies. Write R. F. Annis, M.D., New Augusta, Miss.

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ANNOUNCEMENT

Roland E. Toms, M.D., diplomate in psychiatry, American Board of Psychiatry and Neurology and Psychiatrist in Chief at The Earle Johnson Sanatorium, announces the opening of his office at the Sanatorium for examination and treatment of private patients. Practice limited to psychiatry and neurology. By appointment only. Telephone 3-3360, Meridian, Miss.

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ANNOUNCEMENT

Dr. Harvey F. Garrison, Dr. Harvey F. Garrison, Jr., Dr. Byron Alexander announce the association of Dr. Howard H. Nuchols in the practice of pediatrics at The Children's Clinic, 529 North State Street, Jackson, Mississippi.

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DEATHS

DR. J. W. LIPSCOMB

Dr. J. W. Lipscomb, prominent Lowndes County physician and a former member of the Mississippi State Board of Health, died in his sleep early March 1. He was 84.

Dr. Lipscomb's death came after he and his wife, Mrs. Annabelle Sturdivant Lipscomb, had observed their fifty-eighth wedding anniversary with all members of their family, including a daughter and son from Jackson, present for the celebration.

Widely known in Southern medical circles and first president of the Lowndes County Medical Society, Dr. Lipscomb had been ill four years. His death ended 121 years of medical service to Lowndes County and Columbus by three generations of the Lipscomb family.

Dr. Lipscomb was the son of Dr. William Lowndes Lipscomb and Tallulah Harris Lipscomb and was the grandson of Dr. Dabney Lipscomb, who began practice here in 1832.

Born in Columbus, Dr. Lipscomb attended Franklin Academy here; received his B. S. from Mississippi State and his M. D. from Vanderbilt. He did postgraduate work in New York, Chicago, New Orleans and began private practice in the Delta, where he met and married Mrs. Lipscomb. After approximately a year he returned to his home town and had been a physician in Columbus since.

He was appointed to the State Board of Health in 1926 by Gov. Henry L. Whitfield and elected president of the group in 1932. He headed the board for 12 years. He was a member of the national, state and county medical societies, being elected first president of the Lowndes County Medical Society when it was formed in 1934.

On April 25, 1948 he became a member of the 50 Year Club in an elaborate celebration at the Central Methodist Church in Columbus, where he was teacher of the Every Man's Class for many years. He was a charter member of the Rotary Club and a director in the First Columbus National Bank.

Dr. Lipscomb leaves his wife; two daughters, Mrs. Harold Long, Jackson, and Miss Elise Lipscomb, Columbus, and two sons, Dr. Walton Lipscomb, Jackson, and George H. Lipscomb, Columbus.

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DR. NOAH W. FOUNTAIN

Funeral services for Dr. Noah Webster Fountain, 78, former Picayune physician-surgeon, were held in Picayune on February 21.

Burial was in Palestine Cemetery with Masonic honors conferred by members of Moses Cook Lodge No. 111, F & A.M., of Picayune.

Dr. Fountain, who retired because of ill health, about two years ago, was a member of the First Methodist Church of Picayune; Moses Cook Lodge; and was a past-president of the Picayune Lions Club.

Dr. Fountain died in the Whispering Pines Rest Home at Laurel where he had been a patient for the past six months.

Dr. Fountain was born at Columbia, October 12, 1874; had lived at Logtown and Picayune a number of years. His wife, the former Angeline Favre, died February 24, 1950.

He was educated at the University of Alabama, and licensed to practice in Mississippi in 1908.

Survivors are two sons, Joseph B. Fountain of Jackson; Walter J. Fountain of Houston, Texas; three grandchildren; one brother, C. W. Fountain of Logtown; and one sister, Mrs. Fleet Fortenberry of Crystal Springs.

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DR. JOHN McCLAIN

Dr. John McClain, age 77, died at his home in El Paso, Texas, January 20. He had been a resident of El Paso for thirty-three years. Prior to that time he lived in Choctaw County. He lived in Ackerman and practiced medicine there for three years. He sold his home to Dr. J. James and moved to Texas. He was married to Miss Isabelle Brown of Bradley, Miss. He was a veteran of World War I; member of the Baptist Church; Mason; member of Scottish Rite Bodies of New Mexico; and Ballut Abyad Shrine Temple, Albuquerque, N. Mexico.

Dr. McClain graduated from the University of Nashville Medical School in 1905.

Survivors are his wife, of El Paso, Texas; a son, Jack McClain, of Fort Stockton, Texas; three sisters, Mrs. Emma Boggan, Mrs. Georgia Kilpatrick, Ackerman; and Mrs. Edna Tomlinson, of Royce City, Texas. Funeral and burial were in El Paso, Texas.

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DOCTORS' DAY PROCLAIMED

Governor Hugh White proclaimed March 30 as "Doctors Day" and called on citizens to observe it with expressions of appreciation "to these guardians of the nation's health."

"Our state and nation owe a great debt to those unselfish physicians who labor long hours to care for our sick and who are constantly engaged in research to prevent human misery and suffering," the governor said.

The celebration of this day of recognition of our doctors will find varied and original expressions—from dinners and parties, to the traditional remembrance with a carnation.

March 30 is the date established in the SMA, but it is the prerogative of each local auxiliary to change the date—just so it is observed!

Prizes will again be given this year for the best and most unique programs.

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NURSE RECRUITMENT REQUIREMENTS FOR SCHOLARSHIP

Mrs. S. B. McIlwain, state chairman of Nurse Recruitment, is urging the auxiliaries over the state to participate in the program this year. You will receive a questionnaire, issued by the A.M.A. Auxiliary chairman, from Mrs. McIlwain giving a breakdown of the hows of offering and carrying through on these scholarships.

1. That the applicant pass the physical examination required by a reputable school of nursing.
2. That the applicant be recommended by the pastor of her church and by the superintendent of the high school of which she is a graduate.
3. That the applicant secure and maintain sufficient insurance to pay the loan.
4. That the applicant be required to practice in the state of Mississippi one year after graduation.

The State and National Tuberculosis Associations recommend that loans be made from county TB treasuries where there is a surplus, and where girls in that county desire to enter training. They also give permission for the loan to be canceled if the nurse will remain in the TB field after graduation.

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GAMMA GLOBULIN AFFORDS TEMPORARY IMMUNITY FROM CRIPPLING EFFECTS OF POLIO

You cannot buy the kind of gamma globulin that affords temporary immunity against the crippling effects of infantile paralysis, Mrs. Beatrice

Wright of New York, assistant director of women's activities for the National Foundation for Infantile Paralysis, told leaders in the state clubs at the annual meeting of the Women's Cabinet on March 10. The meeting was attended by Mrs. Richard Clark, Mrs. Augustus Street, Mrs. T. A. Barnes, Mrs. George Owen, and Mrs. W. H. Anderson, all Auxiliary members.

"You cannot get it from the NFIP or from the Red Cross, nor can you buy it from a druggist or through your physician," she continued.

Gamma globulin made from pooled blood for protection against polio will be controlled by a national agency, probably the office for Defense Mobilization and will be rationed to epidemic areas through an allocation committee, Mrs. Wright continued, with the state board of health probably designated as the distributing agency. Under no circumstances will it be available to private individuals at this time, she added.

Differentiating gamma globulin for polio immunization from the commercial gamma globulin long used against measles and infectious jaundice, the speaker emphasized that polio gamma globulin is made only from blood collected over wide areas by the American Red Cross. Since this blood is donated, Mrs. Wright added, its products cannot be sold but are a national resource.

There are 46,000,000 polio age children in the United States, she stated, and gamma globulin supplies this year will afford a maximum of 1,000,000 immunizations, each of which offers protection from two to six weeks.

The bottleneck is not in available blood supplies for processing but in processing plants and equipment she added, saying that the Nat-Paralysis has recently spent a half million dollars of March of Dimes funds for additional processing facilities and it is spending $11,000,000 to buy all gamma globulin manufactured this year and through June 30, 1954.

Mississippi now has 175 beds set aside for acute polio sufferers it was revealed, including 140 in three hospitals in Vicksburg, 20 in the Baptist Hospital in Jackson, and the balance in Tupelo and Laurel.

Outpatient care lags well behind this excellent setup for hospitalization, district advisers were told. Most patients still return to Vicksburg although some are transferred to the state Crippled Children's Service which is as yet limited by a shortage of professional workers.

Relax Muscular Spasms

Stronger than Mephenesin

Tolamine Tablets contain mephenesin 0.5 Gm. synergistically combined with physostigmine salicylate 0.5 mg. and homatropine methylbromide 1.2 mg.

Tolamine is indicated for more effective and prolonged relief of muscular spasm in cases of myositis, fibrositis, bursitis, torticollis, occipital headaches, spasmodic dysmenorrhea, arthritis and anxiety tension.

Dosage: 2 tablets every four hours, not to exceed 10 tablets in one day.
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Tumors of the Neck[*]

LOUIS H. CLERF, M.D.
Philadelphia, Pa.

Tumors or swellings of the neck often present difficult problems in diagnosis. While many may be asymptomatic, their presence often is a source of concern to the patient and his family. They may represent the first demonstrable evidence of serious disease of the upper air or food passages or they may be local manifestations of a systemic disorder. As an example of the former may be cited the occurrence of a painless lump in the course of the upper cervical chain of lymphnodes representing metastasis from a pharyngeal carcinoma. The appearance of several lymphnodes associated with fever and malaise may be the first evidence of infectious mononucleosis. It is important therefore that a careful study of swellings of the neck be made before therapy is instituted since the multiplicity of causes suggests that a variety of therapeutic procedures may be indicated. As a rule, a correct diagnosis can be made by careful history, physical examination, roentgen and systemic studies and in certain instances biopsy.

While some tumors are of congenital origin they may be observed at any time from birth to old age. An understanding of the embryologic development of the structures in the neck is helpful in diagnosis as well as in treatment. Some of the congenital anomalies or vestigial rests are thyroglossal tract cyst and fistula, aberrant thyroid or parathyroid tissue, aberrant salivary tissue, branchiogenic cyst and fistula.

Among the acquired tumors of the neck enlargement of lymphnodes is most often observed. They may represent simple lymphadenitis, may be part of a systemic disorder or be of tuberculous granulomatous or neoplastic origin. They may be single or multiple and, considering the distribution of lymphnodes in the face and neck, may involve the submental, submaxillary, superficial or deep cervical chains, in fact any part of the anterior or posterior triangles of the neck. In addition, many benign tumors of the skin and subcutaneous tissues including sebaceous cyst, lipoma, hemangioma, hygroma, and fibroneuroma as well as tumors of the thyroid gland are observed.

The location of a tumor is of considerable importance in diagnosis. A swelling occurring in the midline may be a thyroglossal cyst or fistula, dermoid cyst, adenoma of the thyroid gland involving either the pyramidal lobe or the isthmus and lymphadenopathy. Invasion of the pre-epiglottic space by an epiglottic carcinoma with swelling over the thyroid cartilage and perilaryngeal abscess secondary to a laryngeal or tracheal foreign body have been observed.

In the submaxillary area, enlargement may be the result of obstruction to the duct of the gland by calculus. Fluctuation in size particularly when eating is significant. The most common neoplasm of the submaxillary gland is mixed tumor.

In the lateral portions of the neck there may be present sebaceous cyst, dermoid cyst, fatty tumor, hemangioma, brachial cleft cyst or fistula, cystic hygroma, carotid body tumor, aneurysm of the carotid artery and lymph-adenopathy of infectious origin or due to a metastatic lesion, Hodgkin's disease, lymphoma, lymphosarcoma, lymphoepithelioma, syphilis, tuberculosis or infectious granulomata.

In the supraclavicular area there may be present lymphadenopathy, (Virchow's node), subclavian aneurysm, primary pulmonary sulcus tumor, Hodgkin's disease, lymphosarcoma and tumor of the thyroid gland.

Inspection aids enormously in diagnosis. Movement of the mass with swallowing usually indicates that the lesion is of thyroid gland origin and this would include thyroglossal cyst or tumor of the thyroid gland itself. Movement of the mass when protruding the tongue suggests a thyroglossal cyst.

Palpation is an important diagnostic aid and helps to confirm the site of the tumor, its consistency, shape, size and relation to fixed points. Bimanual palpation should always be practiced in tumors involving the submental and submaxillary region.

Auscultation is of value particularly in vascular lesions. Pulsation may be transmitted or expansile and should be differentiated. Trans-illumination is useful particularly in cystic hygromas and in large thyroglossal cysts.

Roentgen study always should be made. While it is not helpful in many of the lesions it occasionally gives valuable assistance. In the case of fistula the injection of a radiopaque substance and roentgen study is of value in arriving at a diagnosis and also in determining the extent and direction of the fistula.

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[*] Presented before the sixty-fourth annual session of the Mid-South Postgraduate Medical Assembly, Memphis, Tenn., February 13, 1953.

While there is a great temptation to either aspirate a lump or to explore it surgically one should defer these until it has been studied carefully and a complete physical examination has been made. If a swelling is painless and is discovered accidentally it very probably is neoplasm, particularly if limited to the lateral aspects of the neck. In the midline it may be either a thyroglossal cyst, dermoid cyst or an adenoma of the thyroid gland involving the pyramidal lobe or the isthmus. The presence of tenderness, pain and increase in temperature indicate an inflammatory origin. A single node or mass commonly suggests either a congenital abnormality or primary neoplasm while a multiplicity of masses suggests lymphadenopathy.

Early fixation particularly if there is some tenderness suggests an inflammatory process or tuberculosis. Primary malignant tumors or metastatic lesions usually are not fixed early; later with the occurrence of infiltration, fixation is the rule. Changes in size too must be considered. A slow increase in size should suggest neoplasm, benign cysts or tuberculous lymphadenitis. A rapid increase in size may indicate an acute inflammatory process or hemorrhage in a pre-existing tumor. Variations in size are observed in thyroglossal cysts and submaxillary enlargements.

In the case of lymphadenopathy, one must consider either primary lymphoblastoma, tuberculous lymphadenitis, infectious granuloma, or metastasis from malignant neoplasm. In diagnosis a careful systemic study, including blood studies and roentgen examination as well as a study of the upper air and food passages, is necessary as it is well known that carcinoma of the nasopharynx, nasal accessory sinuses, tonsillar region, tongue and laryngopharynx may metastasize to the neck in the absence of any symptoms to direct attention to the primary tumor.

The size, consistency and presence of inflammatory changes are of importance diagnostically. In the young, tender nodes suggest an acute pharyngeal process. Matting together of nodes with some inflammatory change usually is evidence of tuberculous lymphadenitis. Nontender nodes may occur in lymphosarcoma or lymphoepithelioma. In the adult, the most common cause of lymphadenopathy of the neck is carcinoma of the pharynx, tonsils or larynx. It commonly appears as a nontender movable node which later becomes multiple and fixed.

In the event that one has exhausted all of the diagnostic aids then there is justification for excision of a node or aspiration biopsy. It is unwise to contemplate irradiation therapy until one has arrived at an etiological diagnosis in these cases. It is equally unwise to incise a swelling without first ruling out the more common lesions.

A thyroglossal cyst or fistula is practically always in or near the midline and is attended to the hyoid bone. Diagnosis usually is not difficult. It may be confused with dermoid cyst in the midline but this commonly is found in a lateral position. Surgical treatment is the plan of therapy in either group, care being taken in the case of thyroglossal cysts to excise a part of the body of the hyoid bone and to core out the muscles of the tongue to the foramen caecum. Simple incision of the cyst is useless and commonly creates a draining sinus which invites infection. The use of sclerosing solutions also is to be condemned.

Branchial cleft cysts and fistulas occur along the antero-lateral region of the neck from the auricle to the clavicle. A majority of the fistulas have an orifice situated along the anterior border of the sternomastoid muscle in the lower third of the neck and the tract extends along the anterior border of the muscle opening into the pharynx in the region of the tonsil. Branchial cleft cysts are best treated by surgical extirpation. Careful dissection is necessary to avoid the great vessels. The fistulous tract should be dissected out but often it is difficult to follow its course and a preliminary injection with a radiopaque substance and roentgen study is desirable. Undermining the skin and the use of multiple incisions is a helpful procedure. It usually is not necessary to open the pharynx.

Cystic hygroma of the neck appears as a soft doughy mass. It is most commonly observed in early childhood. Little difficulty is encountered in diagnosis as it can be well transilluminated distinguishing it from branchial cleft cyst. Treatment often is a difficult problem. Incision with drainage is not curative and invites infection. Surgical extirpation may require extensive dissection because of infiltration about muscle sheaths and vessels. The use of sclerosing solutions may be a helpful aid to surgery. Radium and x-ray preliminary to surgical removal have been employed with some benefit.

The occurrence of adenoma of the thyroid gland may present a diagnostic problem but there should be no question concerning therapy. In the single adenoma surgical extirpation is desirable since it is recognized that many of these become malignant.

The lymphoblastomas usually are not surgical problems although a biopsy may be necessary for diagnosis. Irradiation should be employed but the prognosis generally is not good.

Tuberculous lymphadenitis now is infrequently encountered. The nodes usually are matted together. There may be found roentgen evidence of a pulmonary lesion. Irradiation and streptomycin are of value in treatment. Surgical treatment usually is employed only if there is a draining sinus.

The treatment of carcinomatous metastasis is dependent on the site and extent of the primary lesion. As a rule irradiation is merely palliative. If secondary to carcinoma of the hypopharynx, larynx or tongue a radical block dissection with removal of the primary lesion followed by irradiation offers the best chance. In early nasopharyngeal carcinoma with metastasis, irradiation of the primary lesion with block dissection gives some hope.

In conclusion, any swelling of the neck should be promptly investigated and a diagnosis made. In certain of the benign lesions the time of treatment is elective while in others it should be carried out promptly.

In the adult, the occurrence of a lump in the neck should suggest primary neoplasm of the upper air and food passages and adequate studies should be carried out promptly so that appropriate treatment may be instituted.

1530 Locust St.

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Care of the Heart in Elderly People*

F. J. McEWEN, M.D.[†]
Wichita, Kansas

INTRODUCTION:

GREAT CHANGES in standards of living and dramatic improvements in medical care have resulted in a marked decrease in mortality of the people of this country in the past thirty years. Following the discoveries of the sulfonamides, penicillin and other antibiotics, bacterial diseases have practically been conquered. Pneumonia is no longer "the friend of the aged." Pneumonia, typhoid fever, scarlet fever and diphtheria have almost disappeared or have been rendered relatively harmless. Tuberculosis is decreasing and new treatments offer great promise of ultimate defect. The result of these accomplishments has been a healthier life and a rapidly increasing population of older people. At the present time the average life expectancy is about 67.5 years. There are 13,000,000 people in our country over 65 years of age and approximately 23,000,000 over 50 years of age. The problems presented to medicine in this group are numerous and largely related to degenerative changes produced by the aging processes. It is the purpose of this paper to consider the most common conditions and diseases affecting the heart in this group and discuss briefly some points in the management of these problems.

PATHOLOGY AND ETIOLOGY:

Most people who have lived over fifty years have as a rule suffered from previous disease which may have injured the heart and vascular tree and have possibly left some evidence of damage. Rheumatic and congenital heart disease have taken their toll and have left only a small representation at this time. However, modern surgery for congenital defects and mitral stenosis may increase the longevity in both groups. Diabetes, hyperthyroidism, hypothyroidism, anaemia, obesity[9] and arterial hypertension are well known contributors to etiology of heart disease among our older patients. The most common diseases are caused directly by atherosclerosis[8], arteriosclerosis, and involutional changes in the myocardium.

Atherosclerosis is characterized by deposits of lipoid material in the intima. It involves the aorta and coronary arteries and may begin early in life. As a rule it is most apt to occur in persons with elevated serum cholesterol and hyperlipemia. Diabetes mellitus and hypothyroidism are often associated with hypercholesterolemia and coronary atherosclerosis. The lipoid deposits are presumably trapped in the intima and produce progressive lesions known as atheromata. Fibrosis, hyalinization, cholesterol crystallization, necrosis and hemorrhage are the later changes. It may even proceed on to calcification. The intima is swollen. The lumen of the smaller arteries becomes smaller and coronary insufficiency results. The intima may rupture with production of coronary thrombosis or it may be occluded without thrombosis, usually by interstitial hemorrhage.

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† Department of Medicine—Wichita Clinic

* Presented before the sixty-fourth annual session of the Mid-South Postgraduate Medical Assembly, Memphis, Tenn., February 12-14, 1953.

The recent work by Goffan[10] and by Katz[11] has focused much attention on blood cholesterol levels. Many physicians have resorted to rather strict diets to reduce lipoid intake without much success. The best results have been obtained with well-balanced diets which are not too ample in calories. Obese patients have definitely shorter lives and a definite tendency to atherosclerosis. When older patients are overweight, there is urgent need for weight reduction by restrictions on both fats and carbohydrates. Careful inquiry as to diet is important. Many are poorly balanced.

Arteriosclerosis of Mönckeberg involves the muscular arteries especially those of the extremities. It is characterized by fibrosis and calcification of the media. The intima is not involved. However, in later stages, the lumen is occasionally occluded and amputation becomes necessary. Arteriosclerosis is accelerated by arterial hypertension and when present tends to involve smaller arteries and arterioles. The arteries of the kidney, pancreas, spleen, liver and brain are chiefly affected. In these vessels subintimal deposits of hyaline lead to fibrosis, fatty infiltration and degeneration. The media atrophies and the intima thickens. The lumen gradually closes and in direct proportion function of the organs involved is impaired. The heart hypertrophies and coronary sufficiency lags behind.

SENILE HEART DISEASE:

Involutional changes in the myocardium may be influenced by atherosclerosis and arteriosclerosis and hypertension[1]. These changes are few and simple including loss of elasticity of muscle cells and valves, pigmentation of muscle fibers, and atrophy of muscle cells. Simple thickening of the intima is a gradual physiological process beginning early in life and after the fourth decade is accelerated by collagenous tissue, hyaline, fat infiltration and calcific changes. The[2] maximal blood flow through the coronary arteries is about 35 per cent less after the age of sixty than in youth. These changes account for the inability of the senile heart to adapt itself to strains that would be easily tolerated in the young. Harrison[3] and Resnik have pointed out that without evidence of sclerotic changes the myocardium may fail. They have given this condition the name of "Senile Heart Disease" and there is a definite place for it in diagnosis. In old age there are patients who wear out their hearts without evidence of disease. Death may come suddenly with minimal strain or more slowly with congestive failure.

HEART DISEASES:

The more common cardiac problems of older patients are the following:

1. Coronary insufficiency with angina pectoris.
2. Coronary thrombosis with myocardial infarction.
3. Arterial hypertension.
4. Cor pulmonale with emphysema.
5. Syphilitic heart disease.
6. Congestive failure with or without arrhythmias.

Each of these problems is worthy of considerable discussion which is beyond the scope of this paper. A few of the important points in diagnosis and treatment will be mentioned.

CORONARY INSUFFICIENCY

In general this condition is more common in the male. When it is encountered in women, hypothyroidism and high cholesterol serum levels and anaemia should be suspected. When angina pectoris is easily produced with exertion, emotion or inhalation of cold air, there are usually changes in the electrocardiogram. When an elderly patient mentions or admits occasional chest pains or discomfort, the Master two-step test is very often helpful. This test has been especially helpful in the plus-fifty business or professional patient who wishes an examination to guide his physical activities or business undertakings. Many elderly people nowadays lead rather soft and sedentary lives but like occasionally to go hunting or shovel snow. The two-step test if carefully supervised furnishes much better information than a resting electrocardiogram.

The anginia pectoris patient is advised to carry hypodermic tablets of nitroglycerin, grains 1/150. He is advised to place one under the tongue with the onset of pain and repeat in 15 minutes if necessary. Relief is usually obtained in one to two minutes. These tablets dissolve almost instantaneously. They lose strength when exposed to air and should be replaced at least once a year.

Good prophylactic results have been obtained with pentaerythritol tetranitrate (peritrate) mgm. .10 three or four times daily. Exercise tolerance has increased and electrocardiographic improvement has occurred. Paveril, grains 3, t.i.d. has also been a valuable prophylactic. All of these patients are advised to stop using tobacco because of its vasoconstricting action and nearly all of them do quit when they feel it is for a bona fide reason.

Alcohol is recommended moderately and somewhat cautiously to these patients. They definitely feel better but occasionally carry the treatment too far. A few alcoholics tend to teach some caution in connection with this treatment.

These patients are advised to do whatever is possible without producing pain, shortness of breath, or excessive fatigue. Many develop coronary thrombosis but others have angina pectoris for years and die of some other disease. If at all possible they should not be assigned to absolute rest.

CORONARY THROMBOSIS

Since Herrick[7] first presented an adequate paper on the diagnosis and pathology of this disease in 1912, it has become increasingly prominent in medical practice and in the literature. Diagnosis is usually made quickly and these patients are removed to the hospital. Standard procedures of treatment include opiates to relieve pain, oxygen to relieve anoxia and rest. In our experience pantopon has been more satisfactory than morphine for pain, and is followed by less nausea and vomiting. Many of these patients are in shock and the blood pressure falls very low. These patients are in danger of losing the battle early unless the shock state can be overcome and arterial pressure raised to within a reasonable level before the situation becomes irreversible. One 4 cc. ampule of 1-arterenol (Levophed) 1:1000 solution added to 1000 cc. 5 per cent glucose in water for intravenous drip, has produced dramatic relief in some cases. Blood pressures must be checked every minute at first until a satisfactory pressure is established and then less frequently to hold this pressure. It must not be discontinued suddenly or the fall in pressure may be rapid. 1-arterenol is also a coronary dilator and does not increase cardiac output. Its action is as a vasoconstrictor on systemic arteries.

Princezmetal and his group from Los Angeles presented a fine motion picture in color at the American College of Physicians meeting a few years ago in which they demonstrated that as the blood pressure was lowered the size of the myocardial infarction and area of ischemia increased. They also demonstrated that the ischemic heart muscle failed to contract in the infarcted area. When the blood pressure was raised the ischemic area became smaller and myocardial contraction improved.

Since most of these patients have had normal or elevated blood pressures before, it is also highly important to raise the blood pressure to preserve other body functions. It is to be hoped that arterenol and similar substances will be the answer to this problem and save many lives.

Anticoagulants have occupied a rather controversial place in therapy of coronary thrombosis. The maintenance of satisfactory and constant prothrombin blood levels has been difficult. If satisfactory laboratory facilities are available it is probably wiser to use anticoagulants. There is possibly less danger of additional thrombo-embolic phenomena either in the heart or elsewhere.

EMPHYSEMA

Pulmonary emphysema is fairly common in elderly men and less so in women. Contributing causes are a long history of smoking, frequent bronchial colds, bronchiectasis and asthma. As the patients grow older there is loss of elasticity of the chest, calcification of costal cartilage, depression of the diaphragm, broken down alveoli, pulmonary hypertension, loss of vital capacity, cyanosis and right heart failure. Digitalization and diuresis may be temporarily helpful but the prognosis in advanced cases is definitely bad. These patients may be helped in earlier stages by a corset. Arteriosclerosis of pulmonary arteries and those of the right heart occasionally result in coronary thrombosis.

SYPHILITIC HEART DISEASE

This disease has become increasingly uncommon and treatment not very satisfactory. With courses of bismuth and later penicillin, there is a possible chance to prevent further advances of the disease. The damage already present is not changed.

CONGESTIVE MYOCARDIAL FAILURE

Regardless of etiology a large number of older patients develop congestive myocardial failure. The onset may be insidious following a respiratory infection or minor exertion. Moderate air hunger, insomnia and digestive disturbances may be valuable clues if observed, and will lead the careful observer to proper treatment.

Measures of treatment are much the same for older patients as for younger patients. However, there are some differences in absorption and toxicity. Digitalis remains the number one weapon.

It increases the power of ventricular contraction and lowers the heart rate. The whole drug produces toxic reactions more easily and absorption effects are more variable and excretion is slower. We have obtained better results using the active principles—the glycosides[5]—digitoxin or digoxin. These drugs offer uniform potency and more reliable absorption. They are less toxic clinically.

Since older patients do not tolerate as large doses as younger persons it is wise to modify the digitalizing dose until there has been sufficient time to observe the reaction. Perhaps .6 mgm. of digitoxin[5] or 2 mgm. of digoxin, can be given. In about six hours the effect can be determined and a decision on the required remaining dose made. Roughly at this time one-fourth of the full dose may be given and the final one-fourth in another six hours if indicated. Occasionally in the presence of acute congestive failure it is necessary to move more rapidly and in these cases lanticide C or (cedilanid) is very potent and its action is rapid when given intravenously. A dose of 4 cc. containing .8 mgm. may be affective. Further dosage may be given intravenously as indicated.

In most cases it is possible to digitalize older patients more slowly and this is more satisfactory. Three doses daily from three to four days followed by a maintenance dose once daily is more suitable.

Arrhythmias may be troublesome and even dangerous. They are treated with quinidine or pronestyl as in younger patients. Low or reduced sodium diets, ammonium chloride and mercurial diuretics are used for older patients as well as younger ones. Our experience with cation exchange reasons has not been very satisfactory.

Each case must be regarded individually[6]. There are usually other problems besides the heart. Diet habits must be carefully evaluated. Many older patients have a pet laxative or other home remedy. If possible these should not be disturbed. Some although not so many are helped by vitamins. In the last few years due to the radio and lay publicity many patients are taking vitamins and some are very inadequate. Psychologically these patients usually need some encouragement. They know that a bad heart is bad but they still like a word of hope.

Careful consideration of the details of the condition and environment of the patient will be greatly appreciated and the ultimate end postponed perhaps for several years. Complete victory is not expected in this struggle. Delayed defeat with reasonable comfort is a therapeutic triumph.

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In the last six years, 120 new physicians who were aided financially in their education have taken up practice in 77 rural town in 52 Mississippi counties, Dr. Underwood reports. In addition, 15 scholarship physicians are in military service and another 52 are serving internships, following which they will take up rural practice. Two hundred and nine medical students currently are being helped in their schooling.

The Multiple Uses of Processed Tung Oil in Industrial Surgery

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TUNG OIL, or China wood oil, as it is known in China, the country of its origin, whence its culture and production have spread to this country and elsewhere, is the product obtained from the dried fruit or (nuts) of the tung tree, which belongs to the family of the Euphori Biaceae, or spurge, and to the genus Aleurites, of which there are three distinct species—Fordii. Montana, and Cordata. The oil's use is most popularly known industrially, in the manufacture of high grade paints and varnishes, as one of the fastest drying and most penetrating of the so-called drying oils.

Although tung oil has been widely used in China for medicinal purposes, it seems to have been almost completely ignored by modern pharmacists who only lately have begun turning increasingly interested eyes toward the ancient Chinese *materia medica* for helpful hints that have already led to discovery of several of our newer and more popular modern drugs.

The tung oil used in the cases cited in this paper was pure American tung oil, specially processed to render it sterile as well as to permit medical use of the raw oil. (This process prevents an isomerization reaction which usually occurs when raw tung oil is exposed to light and which causes the raw oil to change its molecular structure and take on a solid form that renders the oil unsuitable for administration and not nearly as satisfactory from a healing standpoint. The process differs from ordinary polymerization methods in that its resultant product is not thickened or discolored but retains all the qualities and appearance of raw tung oil).[1]

American tung oil is expressed from nuts of trees of the Fordii species, which is the common type tree planted in the Deep South in an area which extends approximately 80 to 100 miles inward from the coast of the Gulf of Mexico, from the extreme eastern portion of Texas across northern Florida. The oil is clear light yellow or golden in color and of a consistency slightly thinner than pure honey, with a characteristic odor.

A thorough study of the history of this remarkable material now making its debut into American medicine reveals the interesting fact that the U. S. Pure Food and Drug Administration has ruled that tung oil is an old drug, although the medical history of tung oil—as far as American medical literature is concerned—seems confined to only a very brief mention in the U. S. Dispensatory and a description of the hypertension-reducing activity of tung oil as reported by Dr. Arthur Grollman in the *Journal of Pharmacology and Experimental Therapeutics.*[2] Such a general study also reveals definite reason for modern medicine's lack of interest and virtual omission of this material from its use as well as its literature.

Two early references to a toxic effect attributed to tung oil,[3] both of which have been widely repeated throughout tung oil literature, probably account for our modern pharmacopoeia's omission of tung oil as a useful medicinal agent. Hertkorn[4] in 1903 described an effort made by two German chemists to introduce tung oil into the European pharmacologie, but reported that his use of an ointment they prepared had resulted in severe ulcerations and dermatitis. Much later, M. W. Swaney, of the Ellis Laboratories, of Montclair, N. J., wrote a lengthy paper describing a "severe case of dermatitis" attributed to tung oil as contracted by a worker in the Montclair plant.[5]

What is important to note is that both of these authorities report on tung oil which had been shipped out of China for use in the paint and varnish trade, Hertkorn describing a tung oil product made in Europe from such imported oil and Swaney telling of an oil which he, himself, describes as "dark in color and probably of Chinese origin." The list of adulterants commonly used in tung oil exported from China for industrial purposes is long and varied. But most significant is this statement regarding the effects of such adulterants and regarding tung oil's alleged toxicity by a noted tung oil expert, James Claude Thomson, American-educated and for more than 20 years professor of chemistry in China's University of Nanking, whose chemistry department he headed in later years. In a lengthy study of tung oil prepared for a Ph.D. thesis at Columbia University and presented after almost

15 years of residence, study and teaching in China, Thomson writes:[6]

> " . . . Although it is often stated that the fresh wood oils are poisonous, producing severe rashes and eruptions when in contact with the skin, this has not been the experience of the author, who has expressed many samples of the oils from all three species of Aleurites in the Chemistry Laboratories of the University of Nanking, Nanking, China, without experiencing the slightest poisonous or toxic effects, even though the warm fresh oil as well as the steaming ground meal was in contact with his hands on many occasions. The poisonous effects experienced by others may have been due to the presence of Chinese lacquer, produced from the poisonous sumac, which is often added to the expressed wood oils for special purposes. The slightest contact with this fresh lacquer generally produces rashes and skin eruptions similar to those produced by the common poison ivy of America."

Mr. Thomson also describes experiments conducted at Columbia University in which Chinese wood oil was added to the diet of white rats to the extent of 10 per cent of the ration without the production of any signs of toxicity.[7] Experiments conducted on 15 dogs at Tulane University demonstrated that the degree of toxicity in tung oil, even when administered internally, is so slight that an LD-50 could hardly be found.[8] In 140 patch tests made on human skin not a single case of allergic reaction to a specially processed American tung oil was demonstrated, and in my own practice I have not observed any such reaction.[9]

It is interesting in this connection to observe that the Chinese *materia medica,* in an extended account of the uses to which Chinese medicine has put tung oil, notes that the Chinese, themselves, apparently differentiate between types of the oil, even in their own country with the observation that "the best wood oil comes to Hankow from Shin-Chau Fu, in Hunan." It is also interesting to note that practically without exception, all authorities on tung oil state repeatedly and categorically that tung oil has long been employed in soap making, a use to which it could not be put if the so-called toxic effects so often erroneously attributed to it were founded on fact.

The complete absence of reports on any infection or irritation among workers in Chinese or American tung orchards or mills is further evidence that medical science, through an unfortunate error, has failed to develop the potentialities of an important material for alleviating pain and discomfort of some of our most common ills or possibly curing many even more serious ones.

DISCUSSION

And now that every effort has been made to show that processed tung oil is nontoxic, we will render a report on its use in industrial surgery.

For the past nine months, we have used processed tung oil on all of our injuries, and also in elective minor surgery. During this nine months period we have treated 682 industrial cases and 81 elective cases. Near the end of this paper a table will be shown regarding: number, type, treatment, days treated, results, and time lost.

Because we believe that many times in reading a medical paper one becomes lost in a maze of tabulated figures and percentages, we have tried to make our presentation slightly different from the conventional one in that we have not only listed statistical data but have attempted in the following text to correlate and help interpret the figures appearing in our table. Hence, individual brief analyses of the cases follow:

1. We treated 56 simple lacerations, or abrasions, none severe enough to use sutures. Usually we gave first aid, at which time we cleaned the lacerations and massaged in the tung oil. A repeat visit in 3 days was all that was needed. No time from work was lost by these cases.

2. These 157 lacerations sufficiently severe to require suture were cared for. We cleaned them, poured in the oil and took the number of sutures needed. The sutures were removed in 6-10 days. Only an average of .48 days was lost and there was no infection.

3. We treated 48 cases of severe trauma with lacerations. The wounds were gently cleansed. No sutures were taken, oil was poured in and a light splint was applied to the part. Oil was poured on the laceration every day for 4 days and then every second to third day. Usually in 2 to 4 weeks the injuries were well healed. These patients averaged 9 days' loss of time, compared to 16 days in our previous experience.

4. There were 72 severe traumas with or without small fractures and every one with macerated tissue. A cleansing and moderate débridement was done, then oil poured in and a tobuk-like splint, (aluminum and plaster of paris) with a window was applied. The oil was poured in for 4 days then every second, third, or fourth day. In 4 to 6 weeks all were healed. An average of 21 days was

lost from work—compared to 34 to 40 days by our previous methods.

5. Forty-three small fractures were treated. In these cases the oil was massaged into the injured area and a light splint was applied. This oil was massaged in every other day and a splint re-applied. The patients were healed well enough to return to work in an average of 11 days as compared to 20 days average in previous cases.

6. We had 129 severe sprains and contusions. In these cases we massaged the oil into the wrenched joint and swollen tissues for 15 minutes. This massage was repeated daily, often by the patient. These patients returned to work in an average of 5¾ days, as compared to 12 days average healing time for similar cases treated in the past by different methods.

7. Sacro-iliac strains numbered 30, and these were treated with Regen's position, which position is effected on a Gatch bed and simulates a contour chair, sedation and reduced. The oil was then rubbed into the sacro-iliac area for 15 minutes. The patient was given some of the oil and instructed to rub it in twice a day for two or three days. This entire series, with the exception of two, were back at work on one to four days. We had trouble with the two exceptions, but finally cured them over a period of three weeks. This gives us an overall average of 3.3 days and it can be easily seen that if it hadn't been for these two stubborn cases the average healing time would have been one and a half days. The author has observed sacro-iliacs for the past 25 years and says without hesitation that this reduced average work time lost by these 30 cases is difficult for anyone to believe, since his own experience has been that the sacro-iliac patient is usually laid up for 10 to 20 days.

8. This next series of 14 cases demonstrates that processed tung oil is useful on chronic ulcers. The series included 14 contused injuries near old varicose ulcers. These were treated by rubbing the oil into the contused area and also into the ulcer for 15 minutes every day for a week. At the end of the week all patients with the exception of one were sufficiently recovered to return to work. This one exception represents an individual who apparently can live satisfactorily on $20 a week compensation and we have observed that he is thoroughly uncooperative. In fact, we do not believe that he has any desire to get well. Therefore, it is very annoying to have to add this one case to our list and so affect our overall average, as this fellow is still under treatment at the end of four months.

9. Similar to the above is the series in which we treated six old sinuses and ulcerations on the skin of the feet and legs associated with old massive compound fractures. In these cases we applied the processed tung oil with a cotton applicator into the depths of the sinus. In one to three months the sinuses were healed. The ulcers were healed in all except one case and that was improved to the extent that the man returned to work at the end of three months. This one patient occasionally gets an exacerbation of his ulcer and he returns to us. We treat him and instruct him, he continues to work, and except for the three months above cited this is all the time he has lost. We contemplated a skin graft but he wouldn't have it. Lost time in this series of six cases averaged only six weeks, which compares very favorably with many other cases treated in the past by other methods, in which we have noted that disability extended, on the average, beyond a four-month period.

10. There were 43 cases that came to us with abscesses, with cellulitis and lymphangitis. We novocainized these and incised them, then swabbed the abscessed areas out with processed tung oil on an applicator. This swabbing process was carried out every other day for six days and at the same time the oil was rubbed into the skin over the reddened and swollen areas. These patients were also given tetanus antitoxin or tetanus toxoid and also one to two ccs. of procaine penicillin. This compared to other cases not treated with tung oil again very favorably, because in the cases treated with tung oil we used only 300,000 to 500,000 units of penicillin, whereas in other cases we have often used 5,000,000 to 10,000,000 units of penicillin. Also these cases were either completely healed, or sufficiently healed for the patients to return to work in an average of from eight to ten days, as compared to other cases observed in the past wherein patients were unable to return to work sooner than on an average of between 15 and 20 days.

11. a.) First degree burns were simply treated by rubbing the oil into the burned area. There were nine of these cases. All healed without any loss of time and one visit was usually sufficient, as in the past. It may be noted, however, that in several instances these burns had occurred on the face. All such face burns were carefully watched for several days, and when healing was com-

plete it was observed that no peeling or redness resulted.

b.) Second degree burns — there were 11 of these. Here we rubbed the oil in gently, for 15 minutes. This alleviated the pain to a large extent, and the process was repeated daily for one week. These patients healed with only reddened scars which scars rapidly disappeared and all patients were back to work in an average of 4.2 days, as compared to an average of 10 days usually required to produce the same result in second degree burns treated by other methods.

c.) Third degree burns of which these were treated by moderate débridement and the oil overlaid on entire burned area. Then a very moderate pressure dressing was applied. These dressings were re-applied every three days and the patients healed with minimal scarring and returned to work in an average of six weeks. This series includes five cases in which small to fairly large skin grafts were necessary. Naturally, these five required a longer healing time and this ran our average to six weeks. But we compare it to similar cases which we have treated in the past and we find that in the cases treated by other methods we were delayed often by infection, by granulations and occasionally failure of the skin graft. Of course, all healed. But we note a comparison in those we treated with processed tung oil which bears out that our healing time on an overall average, compared to a similar number of other cases, was 40 per cent faster; and in none of the burned cases cited here was there any infection, nor was there any failure of a skin graft. When we have sewed in the graft, we overlay it with oil and put on a very moderate pressure dressing, and, unlike the conventional method, we dress it every three days with the oil and moderate pressure dressing.

12. There were 53 punctured wounds. None of these patients lost any time from work. They were all given either tetanus antitoxin or tetanus toxoid and the punctured wound was swabbed out with a tung oil applicator. We have found in the past that in a series of 40 cases of punctured wounds we got infection in approximately 35 per cent. And while these were finally successfully treated, the time lost in this series amounted to an average of five days. We repeat here that in the present 53 cases of punctured wounds which we treated with processed tung oil there was no infection, and no time was lost.

13. We add 81 elective cases to this series. These represent mainly removal of old scars, moles, cysts, and biopsies of the breast. All these were closed by suture; but before the sutures were taken oil was poured into the fresh wound. There was no infection, healing was entirely primary, and no time was lost. We do not make a comparison to any specific series of previous cases here but we do state that we have never before handled this many elective cases without some infection and some delayed healing. We would also like to add this observation that in the elective cases which we treated with processed tung oil there was considerably less pain and the scars were smaller and less obvious. It is our impression that the tung oil promoted a better, more rapid, and less painful overall repair.

SUMMARY

In summarizing, let us give our impressions and conclusions:

1. We believe that processed tung oil promoted healing and prevented secondary infection in the industrial injuries cited in this paper.

2. We believe that the stimulation of new tissue was promoted so swiftly, that this alone is probably the main reason for the absence of infection noted in our cases.

3. This same stimulating effect is carried to the traumatized nerves and promotes rapid repair toward the normal and therefore relieves sooner the tenderness and soreness and, hence, dulls the acute pain which usually accompanies disabilities such as those described here.

4. We have noted that on the old injuries, ulcers and sinuses the effect of processed tung oil application was more beneficial than other procedures we have used in the past. We cite the same thought here, the same clinical observation only—undoubtedly regeneration of injured tissue was stimulated.

5. We noted that burns treated in this series of cases healed considerably more rapidly than burns treated with anything else we have ever used. Again we believe the tissue repair cycle was greatly aided, and again we mention that no infection was noted.

6. I would like to emphasize that the oil can be overlaid, even on severe burns, without any stinging pain, and our observation has been that these patients continue without much pain until healed. I would further like to bring to your attention that in cases of old ulcers, sprains, swollen joints and lymphangitis the oil should be massaged in for 10 or 15 minutes, not merely applied.

Types of Cases	*Number of Cases*	*Procedure Followed and Applications of Oil*	*Av. Healing Time*	*Av. Disability Time Using Tung Oil*	*Av. Disability Time Tung Oil Not Used*
Simple Lacerations	56	Wound left open and oil applied every other day.	3 - 7 Days	Overall average of .48 days lost	same
Simple Lacerations Sutured	157	Wound left open and oil applied every other day.	6 - 10 Days	Overall average of .48 days work lost	2-3 days lost
Severe Trauma with Lacerations	43	Wound left open, light splint applied. Oil applied every day for four days, then every other day.	3 Weeks	Overall average 9 days work lost	16 days lost
Severe Trauma with Small Fractures and Macerated Tissue	72	Wound left open, Tobruk-type cast or splint with window applied. Oil applied every day for 5 days, then every other day.	4 - 6 Weeks	Overall avge. 21 days work lost	17 days lost
Small Fractures	43	Light splint applied, massaged with oil every other day for one week. Splint removed in one week, oil then massaged into fracture area every 3 days.	3 - 4 Weeks	Overall average 11 days work lost	34 days lost
Severe Sprains and Contusions	129	Oil massaged into wrenched joint and swollen tissues for 15 minutes. Massage repeated daily, often by patient.	7 - 12 Days	Overall avge. 5¾-days work lost	12 days lost
Sacro-Iliac Strains	30	Regens position, sedation, reduced, and then oil massaged into back at sacro-iliac area for 1 to 5 days.	1 - 5 Days	Overall avge. of 3.3 days work lost	12 days lost
Varicose Ulcers with Recent Industrial Injury	14	Treated the recent injury, which in these 14 cases were contusions, and also the ulcer area daily for 3-8 days.	In 3 to 8 Days contusion was healed and ulcer improved	13 of these healed in an avge. time of 5 days. With improvements in ulcer.	3 weeks lost
Old Sinuses and ulcerations on skin of feet and legs associated with old massive compound fractures	6	Novacainized and curettement of sinuses; oil then poured into curetted sinuses daily for 5 days, after that twice a week	1 - 3 Months	Overall avge. 6 weeks work lost	4 months
Abscesses with Cellulitis and Lymphangitis	43	Abscesses incised. Oil poured into abscessed area, cellulitis given gentle massage with oil, daily.	14 - 16 Days	Overall avge. 8 days work lost	15 days
First Degree Burns	9	Oil applied one day, patient told to use it several days.		No time lost	Same
Second Degree Burns	11	Oil applied daily for 3 to 6 days, patient told to continue using it.	3 - 6 Days	Overall avge. 4½ days work lost	9 days
Third Degree Burns	11	Mild débridement, oil applied to burned area moderate pressure dressing. (It was necessary to graft skin in 5 of these cases.) Burns dressed every 2 to 3 days, and oil applied. Also 5 grafts dressed every 3 days and oil applied.	2½ - 8 Weeks	Overall avge. 6½ week work lost	3 months
Punctured Wounds	53	Oil rubbed in one time and applied to depth of wound.	1 Day	No time lost	3-4 days
Elective Cases, Chiefly removal of old scars, moles, cysts, and biopsies of breasts. All closed by suture	81	Oil poured into fresh wound, then suture taken. Sutures removed on 6 to 10th day, No infection. All healing primary.		No time lost	5 days

NOTE: T.A.T. 1500 units, or T.T. 1 c.c. was given in virtually every case. Only in the 43 abscesses with cellulitis and lymphangitis cases were 300,000 to 500,000 units of procaine penicillin given.

7. Our experience in this series of 763 cases, as compared with our records of cases treated by other methods as used in the past, indicates this one constant fact—complete healing and disability time was reduced 50 per cent. This alone is of tremendous importance, as it represents the potential saving of thousands of man hours. It is apparent from the chart and from a comparison of our own experience in the past that in the 763 cases discussed here we have reduced work time lost by disability from one day in several cases to as much as 21 days in aggravated cases.

During the past few years, nearly every state has passed compensation laws. These laws usually provide that if an injured employee is absent from work one week he is paid by the insurance carrier for two days; but if this same employee is absent from work for 14 days, he is paid for two full weeks and is paid week by week thereafter until his disability terminates. The amount of compensation the employee receives is based on a percentage of his payroll earnings. The lowest amount he can receive weekly is $12 and the maximum is $25.

We cannot help but remark at this point that the number of man hours which has been saved in this series represents the saving of several thousands dollars to the insurance carrier and therefore to the employer himself. But let us further note that it represents also a saving of a great deal of money to the employee, as well, since he makes just about three times as much when he works his full week as when he is on the compensation list.

Gentlemen, this ends our paper. But let us quote Alexander Pope:

"Be not the first by whom the new is tried,
Nor yet the last to lay the old aside."

Since this series shows how thoroughly we have tried this new material it is our hope that this account of our experience can be of benefit to you, also.

ACKNOWLEDGEMENTS

1. Oil which was treated by this process was furnished by the Tungolin Company, Inc., Gulfport, Miss. This processed tung oil is not expensive, the supply can be considered inexhaustible. In the author's opinion this is the most inexpensive medicinal aid he has employed throughout the years.
2. *Journal of Pharmacology and Experimental Therapeutics*, Vol. 84, pp. 128-135—1945. U. S. Dispensatory, 1907 Edition, refers to tung oil: "It is also used medicinally as an application in skin-diseases, ulcers, etc."
3. Hertkorn, Chemical Rev., page 635—1903: M. W. Swaney, Indus. and Engin. Chem. (Indus. Ed.) 30: 514-515, May, '38.
4. Ibid.
5. Ibid.
6. "Tung Oil," Ph.D. Thesis, by James Claude Thomson, Columbia University, 1933.
7. Ibid.
8. Report by Foster N. Martin, Jr., M.D., Dept. Pharmacology, Tulane University School of Medicine, February 18, 1952, to the Tung Growers Council of America tung oil toxicity study.
9. Tests conducted for Tungolin Company, Inc., Gulfport, Miss.

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Infectious Hepatitis in Children*

DR. J. R. MULLENS, JR., and DR. W. W. PEARSON
West Point, Miss.

Because of recent increasing incidence of infectious hepatitis in late infancy and childhood in the general population, and, because of our recent experience with it, this problem has been brought forcibly to our attention. In our immediate community of approximately 7,000 population two of the eight practicing physicians have made a definite diagnosis on twenty children from ages 2 to 12. Hence it was felt that the incidence had reached epidemic proportions. The above twenty cases were diagnosed over a period of six months. In conferring with other local physicians we find that they, too, have noted a high incidence of infectious hepatitis. However, we feel confident that there are many others and that all cases were not diagnosed. Had there not been a high degree of suspicion resulting from increasing incidence we believe that a number of recognized cases would have been missed.

Through the experience with our cases we hope to refresh your memory and bring to mind an infectious disease which may in some cases go undiagnosed. This also has brought to our mind the responsibility of early diagnosis followed by proper treatment in order to prevent possible complications which may be permanently disabling or bring about a high degree of morbidity.

The etiologic agent of infectious hepatitis is a filtrable virus. Blood and feces of patients will harbor the virus for various lengths of time, as can be demonstrated by parenteral administration of blood to and by ingestion of feces or blood products by human volunteers. Man is the only species known to acquire overt disease after experimental infection with this virus and, as in the naturally occurring disease, cases with or without jaundice may result. Joseph Stokes from the Department of Pediatrics, School of Medicine, University of Pennsylvania, has done a great deal of recent work on virus of infectious hepatitis. He states that the virus or viruses responsible for this disease appear to have been characterized more clearly by recent studies relating to a positive skin test, using irradiated infected amniotic fluid. The virus from the infected amniotic fluid used for skin tests was obtained from an epidemic at a summer camp. This virus was also shown to produce a cross immunity to the virus found in an institution in New Jersey and another obtained by Havens and Paul from Sicily during World War II in epidemics widely separated in time and distance. With such skin test material hyophilized for stabilization, it has now been possible to study a number of outbreaks of hepatitis in Pennsylvania, Maryland, Illinois, and Missouri. Positive skin tests in all of these epidemics have been related to histories of jaundice in approximately 90 per cent of cases (a percentage of accuracy approximately equal to that of the Schick test in diphtheria). Control groups of children, who have had no history of hepatitis with jaundice or who have been living in epidemic or endemic areas, have not been related to the jaundice of serum hepatitis. The time of appearance of a positive test after jaundice starts apparently lies somewhere between two to six weeks, although cases available for such study have been too few for adequate analysis. Chronic active cases without jaundice apparently also become positive as an improvement occurs. Also, the longer the jaundice, apparently the longer delayed is the appearance of a positive test. Stokes also has had a similar testing in serum hepatitis without a positive correlation as in infectious hepatitis. Therefore he concludes that the evidence is highly suggestive that infectious hepatitis is caused by a virus of a single antigenic type, such as measles or mumps. Also, as in measles or mumps, one attack of infectious hepatitis appears to confer a lasting immunity against all other epidemics of the disease. However, it does render its victims more susceptible to serum hepatitis.

It has been suggested that the incubation period runs anywhere from 15 to 40 days, the reasons for variancy not having been suggested. The methods of transmission are, first, the fecal-oral route which has been proved and is probably the most prevalent. Second, the blood route, which has been proved but is thought to be probably the route of only a minority of the cases. Lastly, the respiratory route which is believed to be a common one, yet has not been definitely proved. There are reported epidemics due to contaminated water, milk, and food. These, however, seem to be the exception rather than the rule.

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* Presented at the quarterly meeting of the Northeast Mississippi Medical Society, Columbus, Miss., March 10, 1953.

There is now evidence that children may become carriers and thus shed virus in their feces for fifteen months or perhaps longer. This certainly explains, in part, the extent of spread of the virus and may give a clue to the cause of sporadic cases. It may also well explain the inception of an epidemic in a susceptible group.

The data now available strongly suggest that the infectious hepatitis virus or viruses are ubiquitous organisms, traveling by the fecal-oral route, attacking populations with poor sanitation or early in life with the production usually of solid immunity and high antibody titer in their bloods and attacking populations with better sanitation later in life depending to a considerable degree on the height of cultural development. Epidemics are common in these groups where sanitation breaks down.

The most frequent presenting symptoms of infectious hepatitis are malaise, anorexia, occasional vomiting, fever, and mild headache. On one occasion in our series the presenting symptom was pruritis, even though subsequent examination revealed fever of 102°, jaundice, and an extremely tender and enlarged liver! Frequently parents will volunteer information concerning the excreta, stating that the urine appears "feverish", or that the stools are unusually light or putty colored. However, if the parents are asked leading questions, the information thus obtained is much less reliable.

In infancy the usual clinical picture is that of anorexia, malaise, restlessness, vomiting, and diarrhea. Icterus is rare, but the hepatic function tests are grossly abnormal. Stools from such infants have been shown to be infectious when given to human volunteers, and constitute a hazard for the members of the family. The disease is rare in infants under six months of age since a large percentage may be protected by maternally transmitted antibodies.

If a history is obtained of blood transfusion, plasma injection, or other injection under less than perfect conditions of sterilization within a period of 45 to 120 days prior to the onset of jaundice, a diagnosis of serum hepatitis must be carefully considered.

Physical examination usually reveals certain signs which greatly assist in establishing a diagnosis. In more than half the cases, the liver is enlarged and tender. In those cases which do not exhibit hepatomegaly, there is always some degree of tenderness or deep palpation below the right costal margin and on light fist percussion over the lower rib areas.

The onset of infectious hepatitis in children under 12 years of age is much the same as any other infectious disease. Symptoms of upper respiratory infection occur in about 75 per cent of this group, and we have noted with interest that several children have developed hepatitis while convalescing from influenza. The usual temperature range is from 100° to 103° F but convulsions are rare. Either colicky or continuous abdominal pain is common and may be intense. There may be localization of pain in the R.L.Q. but rebound tenderness is absent and rectal examination elicits on R.L.Q. pain. There is a rapid decrease in the occurrence of diarrhea in older age groups, but nausea and vomiting occur in about three-fourths of the cases.

In the absence of a specific test for the disease many mild or subacute cases are probably never diagnosed. Thus it is impossible accurately to estimate the ratio of icteric to non-icteric cases.

The laboratory offers several aids in establishing a diagnosis of infectious hepatitis, though it has been found that the hepatic function tests may be normal or grossly abnormal during the newborn period of normal infants. The 48-hour cephalin flocculation has been shown to be 3 plus or greater from 12 hours to six months of age in the same normal infant. However, the 24-hour reading is usually normal and has been accepted as more desirable for early infancy. This test is a sensitive indicator of parenchymal liver cell damage, is easy to perform and when done properly, gives few false positives. It seldom gives positive results in obstructive jaundice unless the obstruction has been present for a month or more or is accompanied by diffuse biliary tract infection. On the other hand, positive results are obtained early in the course of hepatitis.

The thymol turbidity test usually is normal even in early infancy, and though it is not as sensitive as the cephalin flocculation, it is readily quantitated making it valuable in following the course of the disease.

Dr. Ettledorf, professor of pediatrics at University of Tennessee, has indicated to us that he considers the bromsulfalein a most useful test in determining the return to normal function following infectious hepatitis.

The sedimentation rate is usually normal early in the course of the disease, but rapidly becomes increased as the acute phase subsides. Though of no diagnostic value, it has become a very useful yardstick in determining the opportune time to begin gradually increasing activity.

The icterus index may be of value frequently in those cases which exhibit no jaundice and have no hepatomegaly.

The causes of icterus in infants and children are many, but in general the major problem becomes one of differentiating infectious hepatitis from a few well known causes of icterus of non-viral and other viral origins.

The diagnosis of congenital anomalies of the extrahepatic system is difficult in most instances without an exploration and liver biopsy. Watchful waiting for four to six weeks will do no great harm and may well save the life of an infant with viral hepatitis.

The differentiation from *familial hemolytic anemia, erythroblastosis fetalis,* or other blood group incompatibilities is reasonably easy.

The differentiation between *epidemic hepatitis* and *serum hepatitis* is extremely difficult and in most cases impossible because there are no specific serologic tests for either disease.

Malignancy must of course be ruled out early in the differential diagnosis.

Infectious mononucleosis is of little consequence under the age of three and over the age of three may be ruled out by a negative heterophile antibody test, absence of enlarged lymph nodes, and studies of stained blood smears.

Leptospirosis may be eliminated by culture, by darkfield examination of the urine, and by agglutination tests. The latter method was used in our series.

Syphilis must be eliminated early in any differential diagnosis of jaundice in early infancy.

Differing from the treatment of the numerous acute diseases today, the general concensus is that the new antibiotics have little or no value in treatment. In view of such a statement, we rely nearly completely on treatment long established in liver disorders. We believe that the important difference today is the increased knowledge of the disease and a battery of laboratory procedures capable of telling us the course of the disease. This is necessary in order properly to advise patients the length of that treatment.

In explanation of treatment to parents it has been found to be wise to explain to them that we have no fast "sure-fire" method of bringing about a remission of the disease. It is advisable to give a careful explanation that the course of bed rest may be a long one even with symptomatic remission being present. The importance of bed rest is highly emphasized, thus making parents ready to accept the ordeal of keeping the child resting. Occupation of the child's mind and hands with books, puzzles and the like is helpful. The patience of mothers becomes tissue paper thin in the latter part of recuperation. Anticipation of such makes for better doctor-parents relations.

The period of bed rest varies but may at the best be said to be prolonged. The only criteria available at present are disappearance of symptoms and signs and above all the return of the various laboratory procedures to normal.

A dietary regimen which is high in calories, proteins, and carbohydrates is essential. Fat substances in the diet should be low; however, not completely avoided. Supplementing the diet, a high intake of vitamins is recommended, usually given in various tonics constructed for palatability.

Liver replacement therapy with the use of methionine and choline is suggested by a number of authors. However, there are those who maintain that these are of no value and those who merely do not mention the use of them. Intravenous glucose, salt-poor human albumin, and parenteral vitamin K may be helpful in the acute stage of the disease.

Since the advent of ACTH and cortisone we have found conflicting reports of their feasibility. In Europe, for some time, adrenal cortical hormones have been used extensively for the treatment of epidemic hepatitis, and good results have been claimed. However, because of the variable course and duration of acute hepatitis it is not yet possible to determine whether cortisone will have a place in its management. Since a high caloric and adequate protein intake is a cornerstone of therapy in liver insufficiency, it would appear logical to employ cortisone in patients with severe hepatitis who have persistent anorexia. Available biopsy evidence indicates that no effect on parenchymal cell damage can be expected from the administration of these hormones.

A short word might be said about prevention. The usual procedures of sanitation and avoidance of direct contact with the disease is essential. The use of gamma globulin in the direct contacts is of definite benefit. It has been said that there is conclusive evidence that effective protection can be obtained when it is administered more than five days prior to the onset of the disease. As we all well know, gamma globulin has been a product very difficult to obtain in recent months. Only direct family contacts have been inoculated and because of shortage, we are sorry to say that this was not completely carried out. We believe that gamma globulin could have well changed the course of the disease in this locality had it been more generally available.

In summary, we have presented to you our ideas concerning infectious hepatitis brought close to our minds because of a recent experience with twenty cases. We have tried to point out facts concerning infectious hepatitis which may help you in diagnostic work and its subsequent management. We believe that it is the responsibility of the practitioner to detect the mild case in order to protect the individual patient as well as the general public.

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Recent Advances in Nutrition and Metabolism of Infants and Children

E. W. EBERLING, M.D.
Starkville, Miss.

NEW KHOWLEGE brought to our attention during the past year in the fields of nutrition and metabolism make it highly important for the benefit of our patients that we review the more important developments in some detail.

A. First, new and important knowledge concerning the vitamins essential to the maturation of red blood cells will be considered.

The clinical entity known as megaloblastic anemia of infancy which is characterized by pallor, weight loss, hepatosplenomegaly, onset under one year anemia, and the appearance of megaloblasts in large numbers in the bone marrow is still not an entirely solved problem. It was at first thought to be due to deficiency of vitamin C and folic acid and later it was found that some patients responded better to vitamin B_{12} alone or in combination with folic acid. Some patients, however, failed to respond unless vitamin B_{12} folic acid and vitamin C were all present in adequate amounts. Recently another substance has been discovered which is active in causing maturation of the red blood cells to occur, viz: citrovorum factor[1]. This substance is a nutrient required by the bacterium Leuconostoc citrovorum in its growth. It can be demonstrated in increased amounts in the urine of man and other animals following the ingestion of large amounts of folic acid. Therefore it is apparently a metabolite of folic acid. It has been shown that cases of megaloblastic anemia of infancy will respond to the intramuscular injection of citrovorum factor in these cases. It has further been shown that having obtained a marked reticulocyte response with citrovorum factor, no further reticulocytosis could be obtained with the use of folic acid. The same authors[1] reported two cases of megaloblastic anemia which responded to the oral administration of folic acid alone in the absence of known deficiencies of other vitamins. Thus citrovorum factor is apparently a co-enzyme with folic acid in the maturation system of red cells. Optimal dosage of citrovorum factor is in the neighborhood of 75 mg. daily; for folic acid 200 - 500 mg. daily.

It is very interesting to note that liver slices (in vitro) can be made to produce increased amounts of citrovorum factor from folic acid in the presence of Vitamin C[2]. Perhaps this may explain why some patients respond to folic acid alone by mouth and others do not.

B. Further observation upon the activity of vitamin B_{12} in man and other animals reveals that in addition to its marked hematopoietic activity in patients with pernicious anemia, the vitamin also is a growth factor. Wetael and co-workers[3] have presented evidence to suggest that there is a syndrome in childhood characterized by failure of growth to proceed at expected rates, indolent appetite and lack of energy in the absence of other deficiency states which respond dramatically to the oral administration of vitamin B_{12}. Such children showed statistically significant growth improvement over a group of controls while receiving 10 mg. of vitamin B_{12} for several weeks.

Another group of investigators[4] have shown that apparently no such deficiency state exists in premature infants since vitamin B_{12} did not produce growth improvement when administered to them. As you no doubt know, aureomycin is definitely a growth promoting factor for chicks and rats. The exact place of aureomycin in the bodily economy of man remains somewhat clouded, but recent investigation indicates that the reason it promotes growth in lower animals is because it favors the growth of bacteria which produce vitamin B_{12} in the body. It does this apparently

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* Presented before the quarterly meeting of the Northeast Mississippi Medical Society, March, 1952.

by eliminating such organisms as E. coli which do not produce vitamin B_{12}. Certainly it is known that the antibiotic effect of aureomycin is essential for its growth-promoting power. In the management of cystic fibrosis of the pancreas, aureomycin has proved to be an extremely helpful agent.[5] Given orally in doses of 25 mg. per kilo per day, patients with this disease showed not only marked freedom from infection but also a remarkable increase in utilization of protein which resulted in excellent weight gain and growth.

This leads us up to a very important point in the management of patients with infectious disease, and that is that it has become essential to know what organism is causing a given infection in order that the proper antibiotic treatment may be given. The modern antibiotics are extremely potent medicines which may retard the patient's recovery by interfering with the normal synthesis of vitamins in the body. Therefore, shotgun therapy consisting of mixtures of these agents over a prolonged period is unwise unless the total needs of the patient in regard to all the essential vitamins and minerals are appreciated.

C. Repeated reports of Vitamins A and D poisoning in the literature[6],[7],[8] make it essential that consideration be given to this vital aspect of nutrition.

Hypervitaminosis A is now a well recognized clinical syndrome characterized by irritability, sparse dry hair, dry occasionally icteric skin, pruritis and painful swellings of long bones. The diagnosis is based upon these findings plus the history in ingestion of vitamin A in amounts far above the recommended daily dose of 5,000 units and the demonstration of excessively high blood levels of vitamin A, particularly of the alcoholic fraction. It is important to remember that vitamin D poisoning may also occur with vitamin A poisoning since the two are usually given together. Vitamin D toxicity is characterized by the general symptoms of weight loss, listlessness and irritability and signs of increased bone fragility, such as multiple fractures, and calcification of the kidneys. Average prophylactic daily doses of vitamin D for rickets should not exceed 1,000 units ordinarily. The giving of excessively large doses of multiple vitamin preparations to children in the hope of preventing colds, etc., should be carefully avoided. It is better to stick to recommended daily dosages and turn the attention to the child's daily living habits to discover what factors may be influencing the development of colds.

D. The protein and aminoacid requirements of infants have received additional attention during the past year. Albanese and co-workers[9] present evidence that the nutritional inadequacy of unsupplemented breast feeding of infants after the third month of life arises primarily from a quantitative limitation of amino acids methionine, lysine, phenylalanine, leucine and valine. Methionine is the sulfur containing amino acid required for human growth, not cystine.

It is stated that the protein requirement of growing infants during the first year of life should be from three to four gms. kg. per day. Breast milk analyses reveal that after the third month unsupplemented breast fed infants receive considerably less protein, as follows: 3 months, 2.4 gm. kg.; 6 months, 1.8; 9 months, 1.6.

The best products to use in supplementing a breast-fed infant's diet after three months are cow's milk and meat products. Soybean proteins are also effective but cereal and corn proteins are inferior.

Along this line, an interesting study[10] of the behavior of pancreatic enzymes of premature infants reveals that the enzymes lipase, diastase, and trypsin tend to be present in less quantities, the smaller the baby. Proteolytic power of the enzymes varies directly with the infant's weight. It, therefore, is apparent that supplementation of premature infants' diets with amino acids is very important since their power to produce them from ingested milk is poor for the smaller babies.

E. Pediatric literature during 1951 has brought to us several interesting reports of the clinical entity galactosemia[11]. This condition is characterized by the onset during the early weeks of life of failure of weight gain, jaundice hepatomegaly, albuminuria, glycosuria (galactose) and lamellar cataracts. Cirrhosis of the liver and death may supervene. The crux of the matter comes from identifying the reducing substance in the urine as galactose. These children improve immediately on milk-free diets by the use of nutramigen although the lamellar cataracts usually persist indefinitely.

Galactosemia is being reported with increasing frequency and since in most instances it can be cured completely by the removal of milk from the diet, we should be more diligent in our searching for this condition.

F. Much attention has been directed to the clinical and laboratory recognition of serum potassium excess and deficiency states recently[12], especially since ACTH and cortisone both exert powerful effects upon this element. Stress conditions such as traumatic shock due to injury or burns, anoxia, diabetic ketosis, acidosis and dehydration from excessive diarrhea and the like may result in widespread tissue breakdown with the release of large quantities of potassium into the circulation. If renal function is adequate, this potassium excess may be quickly eliminated safely, but in the presence of oliguria or anuria, potassium accumulation in the serum exceeding the normal 4-5 mg. 1 may rapidly occur. The clinical diagnosis of hyperpotassemia depends upon a knowledge of the patient's probable physiologic status in view of the history, serum potassium determinations plus electrocardiographic demonstration, of high-peeked T waves and prolonged Q-T intervals in all leads.

In clinical pediatrics these conditions are encountered most frequently in excessive diarrheal states and in such instances the loss of potassium from the body may be of great magnitude. As a general rule, if the diarrhea is managed within 24 to 36 hours the potassium deficit can be well met by the feeding of milk or orange juice. Wherever possible in dehydrated states, potassium deficit is safest met by feeding potassium salts or solutions such as Darrow's solution by mouth. It is wise never to give potassium salts intravenously until the patient's state of hydration and renal function are near normal, viz; when the urine has a specific gravity of at least 1.012. This is in order that serum hyperpotassemia with possible cardiac arrest may not occur. Whenever potassium solutions are given intravenously, much care should be exercised. In our clinic it has seemed beneficial to begin oral feedings of Darrow's solution, 80 cc. kg. per day in 10 per cent glucose as soon as vomiting has ceased, and continued until no danger exists from excessive stools.

The effect of ACTH therapy for various diseases is in older children and adults to cause a hypopotassemia which should be carefully watched for whenever this substance is being given.

It has been recently stated that the proper use of the various intravenous fluids has saved more lives than any other single agent[12]. This may be true, and certainly it is mandatory that all physicians be aware of the knowledge concerning their uses and abuses.

The problem of childhood obesity[13] remains with us and as you know by far the majority of these children are obese due to simple overeating. This problem should be met by any high protein, low carbohydrate, low fat diet, supplemented with vitamins and minerals which is calculated to furnish about one-half the total caloric requirements of the individual. The other one-half will be derived, therefore, from fat stores of the patient. The additional knowledge that many of these patients are overeating due to abnormal psychological attitudes or to family overindulgence must be kept in mind. The use of desiccated thyroid is considered unnecessary and often harmful.

In conclusion, then, we have been considering recent advances in the fields of nutrition and metabolism as they apply to our patients' needs. We have by no means covered the entire field but instead concentrated on the more urgent aspects.

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COLLEGE TO CHANGE CURRICULUMS

Advances in medicine have increased life expectancy by a third since 1900, contributing to the creation of new and difficult problems which medicine must help to solve. Medicine must train men to serve the whole patient rather than merely to cure disease or aid disabilities. This calls for extensive revision of the medical curriculum.

The first AAMC Teaching Institute will be held next fall at Atlantic City, N. J., immediately preceding the 64th annual meeting of the Association of American Medical Colleges, October 26-28. The areas covered will be the teaching of physiology, biochemistry and pharmacology. Every medical school in the country will be invited to participate.

NEW DRUGS NEW DEVICES NEW DIGESTS

WHAT THE PRODUCT IS: Infatabs Dilantin is a specially designed preparation of Dilantin for pediatric use, in a pleasantly-flavored, triangular tablet, each Infatab containing 50 mg. of Dilantin base.

WHAT IT'S FOR: Dilantin is for the treatment of epilepsy, particularly of grand mal or psychomotor seizures.

HOW SUPPLIED: Infatabs are supplied in grooved, cream-colored tablets, in bottles of 100.

WHO MAKES IT: Parke, Davis and Company, Detroit.

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NEW PRODUCT: Lotocreme, Abbott's new soothing, non-greasy body rub is a white, stable oil-in-water perfumed emulsion containing 1.7% alcohol plus lanolin, olive oil, glycerin and methol. Lotocreme is so well-absorbed that it will not stain clothing or bed linen.

HOW SUPPLIED: In 8-fluid ounce bottles, by Abbott.

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DESCRIPTION: A palatable, aqueous preparation of the wide-spectrum antibiotic, neomycin sulfate, with kaolin and pectin suspended with methylcellulose.

ACTION AND USES: Kaopectate with neomycin provides the absorbent and demulcent action of kaolin and pectin and the antibacterial action of neomycin.

ADMINISTRATION AND DOSAGE: Kaopectate with neomycin is administered orally. Adults — 2 to 4 tablespoonfuls four times daily. Children (over 2 years) — 2 to 4 teaspoonfus four times daily. Infants (under 2 years) — 1 to 2 teaspoonfuls four times daily.

WHO MAKES IT: Upjohn.

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DESIGNED for greater safety in treating urinary tract infections, Thiosulfil, a new sulfonamide with exceedingly high solubility, has been released by Ayerst, McKenna and Harrison Limited. "Thiosulfil" is markedly soluble in the free and acetyl forms, sparingly acetylated, rapidly absorbed and excreted, effective urinary concentrations can be rapidly obtained with minimum danger of side effects.

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THE PRODUCT: Saccharin '12.

INDICATIONS: Saccharin '12 may be used wherever a non-caloric sweetening agent is required. Its B_{12} content provides also nutritional support for diabetic and obesity patients, children and adults.

DOSAGE: One tablet carries the sweetening power of one teaspoonful of sugar. The number used will depend on the individual taste of the patient.

WHO MAKES IT: Armour Laboratories.

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The two most effective anti-tubercular agents, streptomycin and isoniazid (INH), have just been chemically combined into a single drug for the first time.

Early tests with the new drug—called Streptohydrazid—indicate it should be a powerful weapon in the hands of the tuberculosis specialist since it is useful against tuberculosis germs which are able to withstand the attacks of either streptomycin or isoniazid alone. In the laboratories of Chas. Pfizer and Co., Brooklyn pharmaceutical firm, the two agents were locked together chemically so that one gram of streptomycin and 236 milligrams (a little more than a quarter of a gram) of isoniazid may be given in a single injection.

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Enzodase, (Squibb hyaluronidase) an enzyme which hastens the absorption of substances injected subcutaneously, is now being supplied by E. R. Squibb and Sons.

The enzyme breaks down hyaluronic acid, the substance in the tissue which acts as a barrier against foreign substances, slowing down their absorption. When hyaluronic acid is removed by enzodase, such substances spread through the tissues much more rapidly.

THE PRODUCT: Deltamide, the first quadri-sulfa mixture.

DESCRIPTION: A mixture of four sulfonamides, each tablet or 5 cc. (teaspoonsful) contains:

Sulfadiazine	0.167 gm.
Sulfamerazine	0.167 gm.
Sulfametazine	0.056 gm.
Sulfacetamide	0.111 gm.

Each tablet or teaspoonful provides 0.5 gm. of total sulfonamides.

FORMS: 1) Tablets providing 0.5 gm. of total sulfonamides as above, packaged in bottles of 100.

2) Chocolate-flavored suspension, each 5 cc. or teaspoonful providing 0.5 gm. of total sulfonamides as above, supplied in four-ounce and sixteen-ounce bottles.

INDICATIONS: Infections due to Group A hemolytic streptococci, staphylococci, meningococci, gonococci and other micro-organisms susceptible to sulfonamides.

WHO MAKES IT: Armour Laboratories.

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ABSTRACT FROM PEDIATRIC LITERATURE

Harvey F. Garrison, M.D.
Jackson, Miss.

Poisonings Common in Children. J. R. Ross and Alan Brown, Toronto, Ontario. Canada M. A. J. 64:285-89, April, 1951.

One hundred sixty-one cases of poisoning in children admitted to the Hospital for Sick Children, Toronto, Canada, over a 10-year period, were summarized. Twenty-one of these died. Strychnine poisoning was found to be very common and resulted in one-half the deaths from all types of poisonings in children under five years of age. They were largely due to the child ingesting large numbers of A. B. S. and C. Tablets or other types of tablets containing strychnine. Other poisonings which resulted in fatalities were illuminating gas, morphine, oil of wintergreen, chloral hydrate, furniture polish, zinc stearate and Sloan's liniment. The latter two poisons produced fatal aspiration pneumonia.

In the latter part of the ten-year period under summary, it was found that lead was responsible for a large number of poisoning cases and had only recently been adequately recognized and treated. An infant in the teething period may develop the habit of nibbling on painted toys, the sides of the crib or play-pen, verandah railings, etc. If this continues for 3 or 4 months he can ingest sufficient lead to result in convulsions. This 3 or 4 month period is called the latent period. During this the child becomes pale, is cross and irritable, and usually has anorexia, constipation, and occasional vomiting. Lead line of the gums and large numbers of stippled cells in the blood smear are not seen as often in these latent cases as they are in adults. Later the typical lead convulsions develop because of the cerebral edema; and in some cases these result fatally. Others may have total blindness, metal retardation, etc. Additional findings are the typical x-ray line of density seen at the epiphyseal end of the diaphyses of the long bones, and lead in the urine in concentration greater than 5 gamma per 100 ml.

COMMENT:

It has been our privilege to abstract a number of articles similar to this one, but we feel that we all need to be more alert in the practice of preventive medicine in regard to this subject. It seems to be necessary to caution every mother who comes to us with her child at all times against leaving harmful things where her child can get to them. Hardly a day passes in our clinic without our having from one to half a dozen of these cases and some of them are tragic. The mother is left grief-stricken and the doctor feels that if he had been a little more alert in preventive talks to the parents that a less number of accidents would occur. I trust that every physician reading this article will renew his efforts toward preventing accidents of this type.

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STEREO MOVIES REVEAL SOME EXISTING VISUAL PROBLEMS, HELP TO COMBAT THEM, VISION SPECIALIST SAYS

Three-dimensional motion pictures offer moviegoers an opportunity to discover if they have certain visual problems and to help train their eyes to overcome these difficulties.

A vision specialist told Hollywood's top cameramen, directors, and film technicians last night (Mond., April 27), that between 12 and 15 per cent of the public now have eye problems which they will learn about for the first time by viewing three-dimensional movies.

Speaking at the Academy Award theater, Hollywood, at the semi-annual meeting of the Society of Motion Picture and Television Engineers, R. A. Sherman, vision specialist of the Bausch and Lomb Optical Co., Rochester, N. Y., said that the eyes can be trained to help overcome some of these problems through the viewing of such movies. He stressed that all of these problems, which are related to binocular (two-eyed) coordination in seeing, should have the attention of professional eye specialists.

Fifty Year Club Biographica

SEALE HARRIS

(honorary)

DR. HARRIS

Seale Harris, son of Charles Hooks and Margaret Monk Harris, was born at Cedartown, Georgia, March 13, 1870.

He attended the University of Georgia and received his medical degree from the University of Virginia in 1894. Following this, he did postgraduate study at the New York Polyclinic, Chicago Medical School, Johns Hopkins Medical School and also at the University of Vienna and other European clinics.

He first practiced medicine at Union Springs, Alabama. In 1906, he became professor of medicine at the University of Alabama. He served as physician-in-chief, Mobile City Hospital, 1906-1913. He was former owner and editor of *The Southern Medical Journal.* In France, 1918-1919 he served as editor of *War Medicine.* He was also a member and secretary of the Research Committee of the American Red Cross in France. Likewise, he investigated food conditions and nutritional diseases in Italy, Austria, and Germany. He was a major in the Medical Reserve Corps—and on the staff of General Gorgas, 1917-1918. He was lieutenant-colonel and also colonel Medical Reserve Corps. He was with President Wilson's party in Italy in 1919. Doctor Harris received a citation by General Pershing "for conspicuous and meritorious service in France." He was a member of the Conference on Health Problems in Tropical America, Kingston, Jamaica.

Doctor Harris is a fellow of the American College of Physicians, also a member of the American Gastro-enterological Association. He is also past-president and secretary of the Southern Medical Association.

A portrait of Doctor Harris was presented to the University of Alabama Medical School, of which he is professor emeritus, by the physicians in the state of Alabama. The presentation cited Doctor Harris as "physician, investigator, and medical historian." The discovery of hyperinsulism, a disease included in every textbook on medicine in the world, by Dr. Harris was cited. It has been said "as long as civilization lasts, the name of Dr. Seale Harris will be remembered."

§

RUDOLPH MATAS

(honorary)

DR. MATAS

Rudolph Matas, son of Dr. N. H. and Tereas Jorda Matas, was born on September 12, 1860 in New Orleans, Louisiana.

He received his education at Paris, France; Barcelona, Spain; Brownsville, Texas, and Soule's College, New Orleans. Doctor Matas is a graduate of the Literary Institute of St. Joh, Matamoros, Mexico, 1876. He received his M.D. degree from Tulane University in 1880 and his LL.D. from Washington University in 1915 and also attended the University of Alabama, Tulane University, University of Pennsylvania, and Princeton. The M.D. degree *honoris causa* from the National University of Guatemala was received in 1934.

In 1880, Doctor Matas began the practice of medicine in New Orleans and in 1895 began specializing in surgery. He was professor of surgery, Tulane Medical Department, 1895-1927 (emeritus since 1928) senior surgeon, Charity Hospital, 1894-1928 (consultant since 1928) chief senior surgeon, Touro Infirmary, 1905-1935 (honorary chief surgeon since 1935) and consulting surgeon, Eye, Ear, Nose and Throat Hospital.

He is a fellow of the American College of Surgeons, vice-president 1913 and 1920, and president 1924-1925, and AAAS, Havana Academy of Medical Sciences. He served as president of the American Surgical Association in 1909, Southern Surgical Association in 1911 (honorary fellow, 1927), American Association of Thoracic Surgeons, 1920, Louisiana State Medical Society, 1894-1895, New Orleans Medical and Surgical Association, 1886 and vice-president of the American Society of Clinical Surgery, 1908-1910.

The numerous honors that have come to Doctor Matas include: Knight, Civil Order of Alfonso

XII of Spain, 1929, Knight, Order of Isabella (Spanish), 1934, and Chevalier Legion of Honor (France), 1932.

In 1940, Doctor Matas received the *Times-Picayune* Award for community service.

The following is quoted from the presentation of the Fifty Year Certificate on May 10, 1949: "We and our children and their children will often speak of him and some daring souls will try to follow in his footsteps up and over the mountain ranges of human greatness and successful endeavor. Rudolph Matas—the charm of the name—the stature and winsomeness of the man. His monumental achievements will be with us and those who follow always."

§

WILLIAM AUGUSTUS EVANS
(deceased)

DR. EVANS

William Augustus Evans, son of W. A. and Julia Wyatt Evans, was born August 5, 1865 in Marion, Alabama. In 1883 he graduated from A. and M. College with the first graduating class and in 1888, received his Master's degree. This same year, he entered Tulane University and graduated in 1885. (In addition to his medical degree, Doctor Evans also had an LL.D. and D. P. H. degree.)

Following graduation, Doctor Evans practiced medicine at Aberdeen and gained fame in the yellow fever epidemic of 1888 when he had charge of a receiving and examining station and also assisted the Board of Health. He served as vice-president of the State Medical Association in 1889.

In 1891, he went to Chicago and taught at the University of Illinois and also Northwestern University. In 1903, he became president of the Chicago Medical Society and later, in 1916, was president of the American Public Health Association.

In 1907, Doctor Evans became health commissioner of Chicago and during this time became well known for his daily health column in the *Chicago Tribune* which was published until the time of his retirement in 1934. During the time he served as Chicago's health commissioner, he was responsible for many improvements especially in the milk and water supply, and in sanitation generally. Among his outstanding health reforms was the famous Chicago drainage canal.

Following his retirement in 1934, he went to Mexico and in 1939 returned to Aberdeen (Muldon) where he spent the remainder of his life devoting his time to historical research and particularly to Monroe County history.

Doctor Evans was known as a citizen of the world but perhaps will be remembered longest as a teacher, writer, and compassionate friend. His interest in science, in human progress, and especially in progressive medicine never wavered, it has been said by one of his friends. His mind was keen, young, and alert to the very last.

As a member of the Fifty Year Club in Illinois, Doctor Evans suggested the organization of such a club in Mississippi. He was organizer of the club and became a member May 2, 1948, and was serving as president of the club at the time of his death on November 8, 1948.

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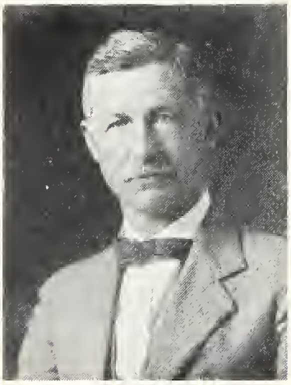
JOSEPH DUNBAR SHIELDS


DR. SHIELDS

Joseph Dunbar Shields, son of Doctor Bisland and Laura Paynes Shields, was born July 5, 1873, at Church Hill, Mississippi.

He attended Chamberlain - Hunt Academy at Port Gibson and later entered Tulane.

In 1895, Doctor Shields graduated from Memphis Hospital Medical College (University of Tennessee).

He served as president of the Jefferson County and Vice-President of the Adams County Medical Societies from 1932 until 1936. He also served as a member of the legislature.

Doctor Shields served as secretary for the Adams County school board for many years and continues to serve. He also built and organized the first consolidated school in Adams County at Pine Ridge in 1915 and delivered the first high school certificate that had ever been issued in the county in 1917.

On September 17, 1948, the Fifty Year Club of the State Medical Association honored this physician with lifetime membership.

THE MISSISSIPPI DOCTOR

The journal with a vision which encourages a plan of delivering modern medicine to the masses at less cost to the individual and more profit to the practitioner. It champions the community hospital, the hub around which this service must be built.

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J. Harvey Johnston, M.D. .... Jackson, Miss.

Address all material for publication to W. H. Anderson, M.D., 104 Second Street, Booneville, Mississippi.

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Editorials

GUEST EDITORIAL

Felix J. Underwood, M.D.
Jackson, Miss.

During the nation-wide observance of Cancer Control Month, we should perhaps take stock of our State Medical Association's possible contributions to the protection of Mississippians from cancer.

The Cancer Committee of the State Medical Association can, should, and, I think, will become the most important force for cancer education in this Association. Numerous avenues are open to this committee. It can encourage and organize participation in control activities; distribute informative materials and present papers on cancer cases and control methods; and greatly aid the Educational Committee of the American Cancer Society, Mississippi Division, in the matter of physicians' refresher courses and of film showings.

Many excellent professional films, pamphlets, bulletins and reprints on cancer can now be obtained at little, and often no, cost at all. Frequently, an educational program must depend heavily on such media as lectures, films, slides, bulletins and in the near future, television.

Courses, institutes, discussions and consultations, and other in-service training methods should make up a continuing cancer education program for public health staffs. This, in addition to the program for practicing physicians, makes for a well rounded program of education in cancer control work.

Though it is true that cancer diagnosis and treatment are best learned through actual clinical experience, opportunities for such work are often limited by the lack of clinical patients and suitable facilities. Whenever possible, of course, professional workers should be brought into direct contact with a wide variety of clinical material and with personnel well experienced in cancer work.

The Mississippi State Medical Association's committees, as well as individual members of the Association, have made invaluable contributions for the past several years, but more especially during the past two or three years in cancer control work in our state. The next few years should see even more significant work being done by these groups.

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ON TO BILOXI

Let us make the coming state medical meeting in Biloxi the best in history! The Buena Vista Hotel is a very fine place to hold a medical meeting. The Coast is always invigorating with balmy breezes and friendly folk. The state meeting is important in many ways. The scientific program, the Doctors Day Luncheon given by the Auxiliary, and even the routine business will afford enough fine fellowship to justify attending. You will acquire medical vigor, relaxation, and the know-how for better service by attending your state medical meeting.

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AT THE HELM

Dr. Lamar Arrington has served the Association well as its president the past year. He will preside with ability and dignity at the coming meeting. A leader in our state in the field of pediatrics, he is prominent in Meridian in the practice of his specialty. Wholly interested in organized medicine, he has given of his time freely in the cause of medical progress. The State Association appreciates the splendid service he has rendered as president.

Dr. M. Q. Ewing of Amory is the incoming president of the association. He has practiced in Amory for many years and has always been very active in the Northeast Mississippi Medical Society. He will give time and expend energy to give the association good service. Able in general surgery, organized medicine has always claimed a deserved portion of his time and efforts.

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THE FIFTY YEAR CLUB

The luncheon for the Fifty Year Club will be held Tuesday, the first day of the state meeting, at the Buena Vista Hotel. The group will be entertained by Drs. Avent and Philpot, who extend this fine gesture to a noble band. Last year the hosts were Drs. Avent and Caldwell.

Dr. W. H. Frizzell of Brookhaven is president of the Fifty Year Club. He is steadily active in practice after more than fifty years on duty. Dr. Felix J. Underwood, recording secretary for the club, has been furnishing the *Mississippi Doctor* with fine brief histories of the fifty-year men. This is a fine service of love and appreciation that the association should deeply appreciate. He has furnished the certificates also.

As a group, no finer citizens are known around the world than our fifty-year doctors. If service to others is the measure of greatness, then they also rank high in greatness. Since these have been in the practice of medicine, this science has made half its march from Father Hippocrates to the present. Also they have been interested in helping to build a citizenship adequate to meet any problems that might arise. Such ideals as held by these men and the application of their principles in medicine constitute yet the highest hurdle state medicine has to overcome.

We congratulate the Fifty Year Club, love and appreciate them for what they are and for what they have done for medicine in Mississippi. Don't forget the luncheon at the Buena Vista Hotel on Tuesday, May 12.

MORE R.N.'s

The doctor shortage is improving in Mississippi, but the shortage of nurses remains acute. We may need several types of nurses to meet our needs. We believe that our nursing system should be built around the registered nurse, as our medical profession structure relies on the general practitioner. Private hospitals in our state, even the small ones, have trained many fine nurses, but the standards and the demand are greater than can be met by these small training schools, and we can not lower standards to prevent our nurses from reciprocating with other states. Since Mississippi is on the way with the best hospital system in the nation, we can offer also the best training for nurses. Our four-year medical school, our central hospital, and all of our other fine hospitals demand nurses who are specialists in many fields. In fact, it is more registered nurses, R.N.'s of the Florence Nightingale vision and spirit, whom we must train.

We point to Mississippi's excellent system of junior colleges, the most outstanding in the nation, which if teamed with our fine system of hospitals and our four-year medical school with its central hospital, can offer ideal training for nurses. The state will need to lend some financial aid perhaps to training nurses as it has in preparing doctors. The general public is very much interested in well trained nurses. Every person and every organization in our state should be interested in adequate nursing service. After all, the medical profession should be the guiding hand in this undertaking.

Dr. V. B. Philpot, chairman of the committee appointed by the president of the State Medical Association, and his group are offering an analysis of the problem. We must envision our medical service as a unit whose duty it is to carry the best in medicine to all the people—through the doctor, the pharmacist, the nurse, the dentist, the hospital and the research laboratories cooperating. These professions need to pool their interest in the patient, as the fifty-year practitioner has through the years. Our nursing problem in Mississippi presents a great challenge. Let us come and reason together and solve it in the most effective way.

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Annual subscription rates to state medical journals: Arkansas $3.00, Oklahoma $5.50, Louisiana $4.00, Tennessee $3.00, Georgia, $5.00, Alabama $3.00, North Carolina $3.00, West Virginia, $4.50, Mississippi $1.00 to association members.

STATE PROGRAM

Eighty-fifth annual session of the Mississippi State Medical Association

Buena Vista Hotel, Biloxi, Miss.,

May 12, 13, 14, 1953

Dr. Arrington

President: Lamar Arrington, M. D., Meridian
President-Elect: M. Q. Ewing, M.D., Amory
Secretary: George E. Twente, M. D., Jackson

B. B. O'Mara, M.D., Biloxi, General Chairman

E. L. Bolton, M.D., Biloxi, President, Coast Counties Medical Society.

Charles D. Taylor, Jr., M.D., Pass Christian, Secretary, Coast Counties Medical Society.

CALENDAR

Monday, May 11, 1953

9:00 a.m.—Breakfast, Executive Committee, American Cancer Society, Buena Vista
8:00 p.m.—Dinner, Tulane Medical Alumni, Hotel Buena Vista

Tuesday, May 12, 1953

7:00 a.m.—Breakfast, Board of Directors, American Cancer Society, Buena Vista
12:00 noon—Luncheon, Fifty Year Club, Drs. J. K. Avent and V. B. Philpot, co-hosts
12:00 noon—Luncheon, Mississippi Obstetrical and Gynecological Society, Card Room, Buena Vista
12:00 noon—Luncheon, Section on E. E. N. T., Sun Room, Buena Vista
12:30 p.m.—Luncheon, Woman's Auxiliary, Broadwater Beach Hotel
5:30 p.m.—Pediatrics Fellowship Hour, Mead Johnson Co., hosts, Buena Vista
8:00 p.m.—Public Meeting, Mississippi State Medical Association, Hurricane Room, Buena Vista

Wednesday, May 13, 1953

7:30 a.m.—Breakfast, Past Presidents, Mississippi State Medical Association, Fiesta Room, Buena Vista
7:30 a.m.—Breakfast, Past Presidents, Woman's Auxiliary, Sun Parlor, Mrs. George W. Owen, Hostess
11:45 a.m.—Luncheon, Mississippi Pediatric Society, Fiesta Room, Buena Vista
12:00 noon—Doctors' Day Luncheon, Buena Vista Dining Room, Mrs. Richard H. Clark, presiding
6:00 p.m.—Fellowship Hour, All Members, and their Ladies, Van-Antwerp of Mobile, Hosts
7:00 p.m.—Annual Association Banquet, Rose Room, Buena Vista, Program, Dancing

PUBLIC NIGHT PROGRAM

Invocation	
Memorial Service and Necrology	George E. Twente, M.D., Secretary
Address	The Honorable Hugh L. White, Governor of Mississippi
Distinguished Service Oration	J. P. Culpepper, Jr., M.D.
President's Address	Lamar Arrington, M.D., President
Address	Louis H. Bauer, M.D., Hempstead, New York President, New York Medical Association
Adjournment	

SCIENTIFIC SESSIONS

Dr. Snelling

SECTION ON SURGERY

Hurricane Room
May 13, 1953, 9:00 a.m.
M. M. Snelling, M.D., F.A.C.S.

THE PROGRAM

I

Dr. Sharp

"Diseases of the Female Urethra"
Robert F. Sharp, M.D., F.A.C.S., New Orleans, Louisiana

Discussion: Cummings H. McCall, M.D., F.A.C.S., Gulfport, Gerald Wessler, M.D., Gulfport

II

Dr. O'Neill

"Painful Rectal Conditions"
Lawrence J. O'Neill, M.D., F.A.C.S., New Orleans, Louisiana

Discussion: George Byrnes, M.D., Pass Christian; Jack A. Atkinson, M.D., F.A.C.S., Brookhaven

III

"Another Method of Reducing Portal Hypertension"

Robert H. Brumfield, M.D., F.A.C.S., McComb
Discussion: George F. Twente, M.D., F.A.C.S., Jackson

IV
"Fractures in General Surgery, Case Reports"
V. B. Philpot, M.D., F.A.C.S., Holly Springs
Discussion: T. E. Ross, M.D., F.A.C.S., Hattiesburg; W. H. Anderson, M.D., Booneville

V
"Refrigeration Anesthesia, A Better Method"
Charles T. Berry, M.D., F.A.C.S., Greenville
Discussion: Thomas G. Barnes, M.D., Greenville

VI
"Intestinal Obstruction"
James T. Thompson, M.D., Moss Point
Discussion: D. L. Hollis, M.D., Biloxi

Dr. Wilson

SECTION ON MEDICINE

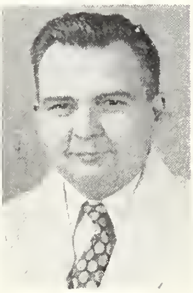
Hurricane Room

May 12, 1953, 9:00 a.m.

T. E. Wilson, M.D., Jackson, Chairman

THE PROGRAM

I



Dr. Pirkey

"Diagnosis of Early Pulmonary Lesions"

Everett Leighton Pirkey, M.D., Louisville, Kentucky

II
"Treatment of Tuberculosis"
Ray H. Biggs, M.D., Sanatorium
Discussion: E. M. Murphy III, M.D., Tupelo; Robert E. Schwartz, M.D., Hattiesburg

III
"Treatment of Allergic States"
George W. Owen, M.D., Jackson
Discussion: O. E. Ringold, M.D., Cleveland; E. W. Ryan, M.D., Charleston

IV
"Treatment of Congestive Heart Failure"
Ben R. Heninger, M.D., Gulfport
Discussion: Lawrence J. Clark, M.D., Vicksburg; Arthur Guyton, M.D., Oxford

V
"Treatment of Rheumatoid Arthritis"
Benjamin B. Wells, M.D., Little Rock, Arkansas

SECTION ON EYE, EAR, NOSE, AND THROAT

Dr. Hollowell

Fiesta Room, West Lobby

May 12, 1953, 1:30 p.m.

Fred D. Hollowell, M.D., Jackson, Chairman

THE PROGRAM

I

Dr. McDonald

"The Management of Penetrating Wounds of the Globe"

P. Robb McDonald, M.D., Philadelphia, Pennsylvania

Discussion: Stirling S. McNair, M.D., Jackson

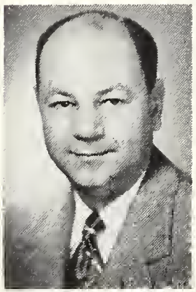
II

Dr. Brown

"The Hyoid Bone Syndrome"

Lester A. Brown, M.D., Atlanta, Georgia

III
"The Medicolegal Problems of the Central Scotomata"
Morris Davidson, M.D., Veterans Administration Hospital, Jackson
Discussion: Stirling McNair, M.D., Jackson
"Antihistaminics in Allergic Conditions of the Ear, Nose, and Throat"
D. W. Hamrick, M.D., Corinth



Dr. Lauderdale

SECTION ON PEDIATRICS

Hurricane Room

James A. Lauderdale, M.D., Meridian, Chairman

THE PROGRAM

I
"Congenital Displasia of the Hip in Infancy"
Richard D. Hawkins, M.D., Biloxi
Discussion: W. F. McDonnell, Jr., M.D., Gulfport

II

"Subject to Be Announced"
John H. Dent, M.D., New Orleans, Louisiana
Discussion: J. U. Morrison, Jr., M.D., Laurel

III

"Humidification in Pediatrics"
Joseph B. Miller, M.D., Mobile, Alabama
Howard H. Nichols, M.D., Jackson

IV

"Clinical Coxsackie Disease"
Wayne Yeager, M.D., Moss Point
Discussion: E. W. Eberling, M.D., Starkville

The Mead Johnson Co., Evansville, Indiana, will entertain members of this Section during a Fellowship Hour on Tuesday, May 12, 1953, 5:30 - 6:30 p.m., Hotel Buena Vista.

Dr. Lucas

SECTION ON OBSTETRICS AND GYNECOLOGY

Hurricane Room

May 12, 1953, 1:30 p.m.

John F. Lucas, M.D., Greenwood, Chairman

THE PROGRAM

I

"Attitudes and Conflicts and Their Relationship to Gynecology"
Howard A. Nelson, M.D., Greenwood
Discussion. Walter Simmons, M.D., Jackson; Virginia S. Stacy, M.D., Ruleville

II

"The Role of Tracheotomy in the Treatment of Eclampsia"
James E. Safley, M.D., Brookhaven
Discussion: William Wiener, M.D., Jackson; W. M. Colmer, Jr., M.D., Hattiesburg

III

"Carcinoma of the Cervical Stump"
George Archer, M.D., Greenville
Discussion: Richard Street, M.D., Vicksburg

IV

"The Management of Pelvic Endometriosis"
Curtis Tyrone, M.D., New Orleans, Louisiana

There will be no formal discussion of Dr. Tyrone's paper.

Dr. Tyrone

Dr. Carter

V

"Bacteriodes Infections in Obstetrics and Gynecology"
F. Bayard Carter, M.D., Durham, North Carolina

There will be no formal discussion of Dr. Carter's paper.

Dr. Blakey

SECTION ON HYGIENE AND PUBLIC HEALTH

Hurricane Room

May 14, 1953, 9:00 a.m.

Durward L. Blakey, M.D., Clarksdale, Chairman

THE PROGRAM

I

"Recent Advances in the Control of Tuberculosis"
Henry Boswell, M.D., Sanatorium

II

"Urogenital Tuberculosis"
Ben Rader, M.D., Clarksdale

III

"New Problems in Communicable Disease Control"
A. L. Gray, M.D., Jackson

IV

"Physicochemical Stress in the Production of Disease"
G. C. Furr, M.D., Clarksdale

THE MISSISSIPPI EYE, EAR, NOSE, AND THROAT ASSOCIATION

The Sun Room, Hotel Buena Vista
Tuesday, May 12, 1953

8:45 a.m.—B. S. Guyton, M.D., Oxford
9:00 a.m.—"Estate Planning", Mr. M. M. Winkler, Tupelo
9:45 a.m.—Mrs. D. W. McBryde, Jackson
10:00 a.m.—N. C. Knight, M.D., Jackson
10:15 a.m.—Mr. D. R. Patterson, Jackson
10:25 a.m.—Stirling S. McNair, M.D., Jackson
10:40 a.m.—Van Dyke Hagaman, M.D., Jackson
10:55 a.m.—The General Discussion will follow.

The luncheon for the Section on Eye, Ear, Nose and Throat, Mississippi State Medical Association will follow the adjournment of the Mississippi E. E. N. T. Association meeting at 12:00 noon in the Sun Room.

LOUISIANA - MISSISSIPPI OPHTHALMOLOGICAL AND OTOLARYNGOLOGICAL SOCIETY

The Edgewater Gulf Hotel
Edgewater Park, Mississippi
Monday, May 11, 1953

8:30 a.m.—Registration
9:10 a.m.—The President's Address—W. L. Hughes, M.D., Jackson
9:30 a.m.—"Benign Lesions of the Thoracic Cavity with Some Emphasis on Extra-esophageal Pathology"—V. K. Hart, M.D., Charlotte, North Carolina
10:45 a.m.—The Wiley R. Buffington Memorial Address: "The Trials and Tribulations of Glaucoma Surgery"—P. Robb McDonald, M.D., Philadelphia, Pennsylvania

12:30 p.m.—Luncheon—Fellows and Guests (Immediately following the luncheon, the Executive Session will be held for Fellows only)

2:15 p.m.—The J. Raymond Hume Memorial Address: "Cancer of the Ear"—Lester A. Brown, M.D., Atlanta, Georgia

3:30 p.m.—"Therapy of Intraocular Infections" — Irving H. Leopold, M.D., Philadelphia, Pennsylvania

5:30 p.m.—Social Hour for Fellows, Guests, and their Ladies

Ophthalmologists, Otolaryngologists, and Residents in Ophthalmology and/or Otolaryngology are invited to attend. Registration Fee: Residents, non, certificate from superintendent required; guests from Active Military Service, $5.00; All other guests, $10.00. For additional information, please communicate with Edley H. Jones, M.D., Secretary, Vicksburg, Mississippi.

News and Comment

INVITATION

The Coast Counties Medical Society invites every member of our state association to be present at our annual meeting in May. A warm welcome will await you. The program committee has arranged an outstanding scientific program, one of the best we have ever had. In addition, the technical and scientific exhibits will be above par. Valuable entrance prizes will be awarded both the doctors and their wives at the banquet on Wednesday night. Excellent entertainment will be given. A cocktail hour, courtesy of Van Antwerp Surgical and Hospital Supply Company, will precede the banquet. Prizes for visiting the technical exhibits will be awarded at this time as well as trophies to the winners of the golf and skeet tournaments. Dancing on the deck will be free after the banquet. Deep sea fishing will be unexcelled for those who enjoy it.

Doctor Lamar Arrington, our president, has worked untiringly during the past year for the good of our society and we owe it to him to have a record breaking attendance.

May we urge each of you to plan to come to Biloxi and relax while you enjoy the equivalent of a postgraduate course in the latest advancements in the practice of medicine and surgery.

ELDON BOLTON,

Pres. Coast Counties Med. Society

B. B. O'MARA,
Convention Chairman.

THE EXHIBITOR CAN SERVE YOU

Remember to visit our exhibitors at the state meeting. They help to carry on the affairs of the organization. The medical profession could not travel very well without the research men and the biological houses. The doctor, the nurse, the dentist, the pharmacist, the hospital, and the producer of medicines—all these should be equally interested in the sick patient. In fact, theirs should be the same interest that the family doctor has had through the years in the sick person as an individual. The exhibitor can and is rendering a fine service to the profession and in turn to the people. Visit the booths.

THE HANDICAPPED

The rehabilitation and the employment of the handicapped of our country constitutes one of social, economic and humanitarian problems. It seems that we have an annual average of a quarter of a million persons needing rehabilitation as a result of sickness, accident or war. Five per cent of disabilities of persons eligible for rehabilitation have been caused by occupational injuries or hazards, five per cent by home, highway or other accidents, two per cent by congenital disabilities, and 88 per cent by disease.

It has been found that the rehabilitated handicapped are efficient, dependable, and safe. They are not more liable to further accidents and they are off the job less than the one who has never had a handicap. It pays big dividends to put the handicapped person to work. It pays in dollars and it pays in happiness to the individual and his family.

Rehabilitation should begin early, one person said "within two minutes after it takes place!" An obstetrician was asked, "when should the clubfoot baby be treated?" "Well, sir," he replied, "if it be a breech, before the head is born."

Here again the medical profession has a great responsibility as well as the company or the individual employing the rehabilitated, handicapped person. The handicapped is also a big challenge and a big responsibility to every medical school. We are sure our new four-year medical school will take note of this.

Service to others is the measure of human greatness, but if you are on the receiving end, you have the responsibility of gratitude.

CONFERS WITH GOVERNOR ABOUT CRIPPLED CHILDREN

Gloria Jean Grammer, four-year-old cerebral palsy patient at the Cerebral Palsy Hospital-School located in Jackson, was chosen as the Hinds County 1953 Easter Seal Child, and her winsome cooperation did much to further the sale of the Seals and promote the services of the Mississippi Society for Crippled Children and Adults.

Gloria Jean, blonde, blue-eyed, is the daughter of Mr. and Mrs. R. T. Grammer, Rt. 4, Booneville, Miss. She has progressed from the standing table stage, through the push-pull stage, to the parallel bar stage, which is the preliminary to learning to use crutches.

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AMITE-WILKINSON MEDICAL SOCIETY

The Amite-Wilkinson County Medical Society held its quarterly meeting at the Field Memorial Community Hospital at Centerville, on Friday night, March 20. The meeting was called to order by President Charles Catchings of Woodville.

Doctor Jennings and Doctor Sam Field presented the advantages of combining the two societies under one charter. This was discussed and voted to be done.

Papers on the program were presented as follows: "Dangers of Federal-Controlled Medicine", by Doctor Durley Dean of Gloster; "The Dangers of Bacterial Resistant Strains Occurring from the Inadequate Use of Antibiotics — Too Small a Dosage or Too Short a Time", by Doctor David Thornhill. The papers were discussed by Dr. E. M. Robards, Superintendent of East Louisiana State Hospital of Jackson, La., and by Dr. John McAtee, assistant superintendent of the same institution. These two doctors and Mrs. John McAtee were honored guests. Mrs. E. M. Robards could not attend on account of illness. As usual the occasion was brightened by the presence of the doctors' wives.

A delightful dinner was served by Miss Boles, superintendent of nurses, and her capable staff.

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MEDICAL EXAMINATION NOTICE

The Mississippi State Board of Health will hold Medical Examinations on June 22 and 23—(Monday and Tuesday) in Jackson, Mississippi, at the Robert E. Lee Hotel, (Convention Hall).

Examinations may be taken on the first two years only, (June 22), as well as on all four years of medicine (June 22 and 23); or on the last two years (June 23) for those who have already passed the first two years examinations before this Board.

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The Academy of General Practice has and is rendering a fine service to organized medicine and to the people in turn. And yet it seems that about 49 per cent of the hospitals of our country do not admit general practitioners to look after their patients. The people are hospital-minded, but if the practitioner has to stop at the outside door, we must admit that we have a problem that needs serious consideration. All differences can be harmonized if we keep in mind that the sick patient must come first.

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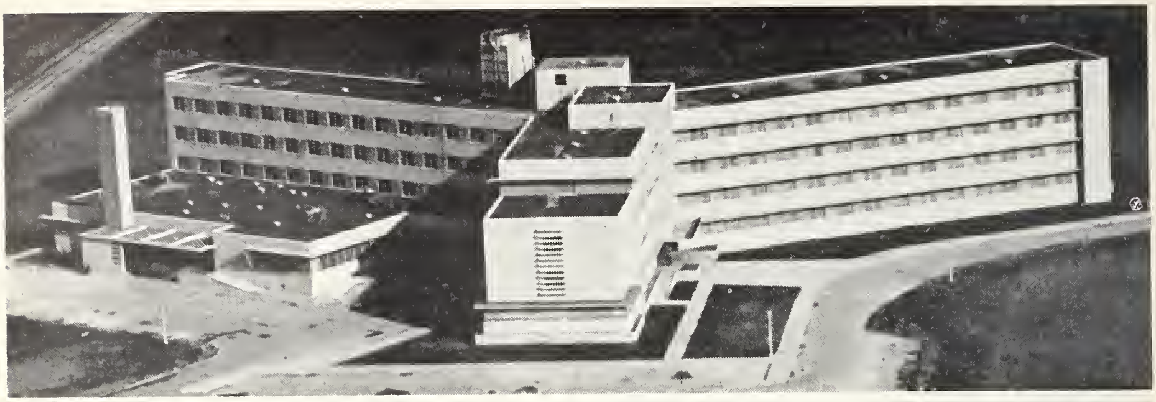
"It is in communities on the lower economic income level that the greatest challenge exists. Places with poor schools, churches, roads, homes and farms go hand in hand with inadequate medical care."

Since 1946 many doctors have settled in villages, stated Dr. F. S. Crockett of Lafayette, Ind., before the Conference on Rural Health:

"Since payroll deduction is impossible for farm families, some other satisfactory and economical arrangement must be made to collect and forward premiums for the group."

In citing some examples, he said that successful groups have been formed within farm organizations, among church members and among depositors of rural banks.



The Washington County Hospital, Greenville, Miss.

WE DEDICATE THIS HOSPITAL

(Dedicatory message of Governor Hugh L. White, on the occasion of the opening and dedication of the Washington County Hospital, Greenville, Miss.)

I am proud and I feel deeply honored that you have permitted me to join you in the dedication of this great hospital.

I am proud that my hand may touch into life this fine institution toward which so many other hands in this community have labored so faithfully and so devotedly since that day so long ago in 1894 when there were only three hospital rooms in this city.

I am proud to dedicate this magnificent building, for a little time I may join in the work that began in the hearts and minds of your citizens and officials, that slowly and painfully evolved thru study and work and planning into the blue prints of the architects, that gradually on this beautiful site began to take form, as concrete was poured on concrete, steel placed on steel, brick on brick, until noble and fine this great structure stands before us.

I am happy to open these doors that swing out to the sick, the feeble and the sore distressed. I am honored to bear the word to the consecrated physicians, surgeons, nurses, technician aides and helpers, that they may enter and begin the ministry of health that is the highest calling among men excepting only one—the clergy.

Dear citizens of Washington County, with humble heart, but proud of your achievement, I dedicate this hospital, the Washington County General Hospital, in the name of Him who loves us all, to the service of the ill, the feeble, the suffering men, women, and children of all creeds, of all races, of all political faiths, of all economic conditions of all humanity—*to you all*—I dedicate this great temple of healing.

HOSPITAL AND NURSING CARE

The following is a brief presentation of the report to be made by the Committee on Hospital and Nursing Care, V. B. Philpot, chairman. Members of the committee are: A. V. Beacham, Leslie V. Rush, Walter E. Johnson, and J. Harvey Johnston.

The Existing Situation

1. Too few nurses available.
2. Too few nurses being graduated.
3. Nursing schools reduced to too few in number.
4. Nursing schools will be further reduced under present trend.
5. Nursing schools suffering under existing structure from:
    a. Lack of finances.
    b. Discouragement and threats of closure instead of constructive aid and council.
    c. Troublesome and unnecessary records and reports.
    d. Unwise and unnecessary forced affiliations.
    e. Confusion as to minimum standards and accrediting agencies.
    f. Lack of freedom to develop and progress in a common sense manner.

General Recommendations

1. Financial aid to schools.
    a. For scholarships and instructors.
    b. For buildings—dormitories and class rooms.

2. Junior colleges be utilized as an integral part of each nursing school for didactic work.

3. Those hospitals capable of doing so be helped and encouraged to meet standards of University of Mississippi so that nurses desiring to do so can continue education to B. S. Degree in nursing.

4. That clinical training be the sole responsibility of the participating hospital.

5. That a similar program with modified standards be established for practical nurse training and licensure. That she be called *clinical* nurse.

6. That an overall progressive step ladder plan be developed generally as follows:

18 months clinical nurse.
36 months registered nurse.
54 months B. S. in nursing.

Salvage plan:

a. Registered nurse student who drops out after 18 months can become licensed clinical nurse.
b. Clinical nurse can transfer to registered nurse program and receive R. N. after 39 months. (Total)
c. Registered nurse can continue education to become B. S. (two more years).

7. Approved hospitals have privilege of training registered nurses, clinical nurses or both.

8. New standards be established in the state:

a. To bring more schools into existence.
b. To help and encourage existing hospitals to elevate their standards in a common sense way.

9. That existing laws affecting nurse education and accreditation be alerted or modified to assure that the State Board of Nurse Examiners cannot be dominated by any individual group or faction—that its members be selected in cooperation with the State Medical Association, State Nurses Association, and State Hospital Association.

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PROGRESS OF HEART DISEASE CONTROL UNIT

(From annual report made to the Advisory Heart Committee by Thaddeus D. Labecki, M.D., medical consultant to the Heart Disease Control Unit.)

In the phase of professional graduate education, the four seminars organized in the past proved to be financially quite expensive, but their value cannot be argued. The participation of Dr. George R. Herrmann, professor of medicine, University of Texas, and a cardiologist of international reputation, has been secured. The response on the part of internists invited from within our state, while slow in coming, is nevertheless gratifying.

Over the past year informal conferences have been held in many localities, particularly in small towns, always at the specific request of local physicians, groups of practitioners or hospital staffs. Rendering this service on the initiative of the participating physicians has been most strictly adhered to. In two localities a modified approach has been tried: following the clinical conference organizing a round-table quiz session. Thanks to frequent personal contact with recognized medical and teaching centers, this unit is in position to convey to practitioners new but already proved concepts of etiology, diagnosis, and therapy in cardio-vascular disease.

This unit cooperates with the Crippled Children's Service and private practitioners acting on behalf of that agency in screening the candidates which apply through the local health departments. The preparatory workup is done in the field and cases meriting further diagnostic and therapeutic followup are restudied at the Mississippi Baptist Hospital by the appointed consultants. It is most encouraging that already a number of cases found or referred through the activities of this Unit have been successfully operated upon.

Several sessions for nurses have been organized to acquaint them with the basic clinical aspects of cardiovascular disease and, with the cooperation of US Public Health Service and the Division of Public Health Nursing of the Mississippi State Board of Health, six one-day seminars are planned for May so as to enable all nurses in the state to participate. The instruction is to be given by nurses on the staff of the Heart Section, U. S. Public Health Service, a pediatrician, the supervisor of this unit, and a nutritionist.

The lay education program, conducted by a full-time member of our staff, continued as previously, with particular emphasis on the distribution of heart films. Its value can be judged by favorable response on the part of science teachers, civic clubs, home demonstration groups, Parent Teachers Associations, organized medical librarians, public health personnel, etc.

On the invitation of the respective program committees the unit presented scientific exhibits before the Mississippi Chapter of the American Academy of General Practice and before the annual meeting of the Southern Medical Association. The exhibits dealt with the long range study project in the field of lipoprotein metabolism in health and in atherosclerosis; the project enjoys not only the endorsement but also the active support and participation of several members of the Committee. The results obtained so far were summarized and presented before the annual meeting of the American Gerontological Society in Washington, D. C., on September 6, 1952. The multiple approach to the problem includes a test developed and later modified by this Unit; the value of that test (chylomicron percentage determination in fasting serum) has been recognized by Dr. O. Pollack, secretary of the American Society for the Study of Arteriosclerosis, in his last publication, December, 1952, and he emphasized that on the basis of all available data only two tests serve as diagnostic and prognostic laboratory aids: carefully performed total cholesterol level and the chylomicron test. The more detailed report has been prepared in the form of a scientific paper and will appear in publication in the near future. Following a short abstract published last July and our presentations, a number of medical centers began to adopt our test, and three university projects (in New York, Texas and Kansas) either have included or are planning to include the approach advocated by this unit. Results on related projects in the field of hypertension and arteriosclerosis are being now evaluated.

The recognition of the efforts of this Unit by a number of authorities (Gofman, Oppenheimer, Blumgart, Morrison, Meneely, Stirling Nichol, and others) and by several research foundations proves again the soundness of the overall program as outlined and endorsed by the Advisory Heart Committee of the Mississippi State Medical Association.

§

ASSEMBLY IN OTOLARYNGOLOGY

The Department of Otolaryngology, University of Illinois College of Medicine, announces its Annual Assembly in Otolaryngology, divided into sections:

A. *Basic Section,* September 21 through 26, 1953, devoted to surgical anatomy and cadaver dissection of the head and neck, and histopathology of the ear, nose and throat, under the direction of Dr. M. F. Snitman.

B. *Clinical Section,* September 28 through October 3, 1953, consisting of lectures and panel discussions, with group participation of otolaryngological problems and current trends in medical and surgical management.

Registration will be limited. Application for attendance at one or both sections will be optional. For information write to the Department of Otolaryngology, University of Illinois College of Medicine, 1953 West Polk Street, Chicago 12, Illinois.

§

You must know the patient in all of his relations to life to be able to treat him in the light of today's best medicine.

DEATHS

DR. MURRY DEWITTE QUIN

Dr. Murray Dewitte Quin, born September 4, 1871, age 81 years, died Tuesday morning, March 24, 1953.

Funeral services were held at Liberty Baptist Church Wednesday, March 25, at three o'clock.

Dr. Quin, a graduate of Louisville Medical College Louisville, Ky., had practiced in East Fork and Liberty all of his professional life.

§

DR. JAMES BENNETT

Funeral services for Dr. James Bennett, Sr., prominent Meridian physician who died at his home April 10, were held at Webb's Funeral Home, the Rev. M. L. McCormick, pastor of Central Methodist Church, officiating.

Dr. Bennett came to Meridian in 1904 and had been a practicing physician since that time. His ability as a diagnostician, his aptitude as a doctor and his case manner were noted throughout his long practice.

A member of a prominent family of West Alabama, he was born in Sumter County, Ala. His academic and professional training were received at Millsaps College in Jackson and the University of Louisville, Ky.

He leaves his wife, Mrs. Annie Hackett Bennett, Meridian, a daughter, Mrs. J. M. Speed, Carthage, four sons, James Bennett, Dr. Hackett Bennett, both of Meridian, Sgt. Gardner Bennett with the U. S. Air Force in Korea, Preston Bennett, Clarksdale, a brother, T. G. Bennett, Meridian, and a number of grandchildren.

§

DR. Z. J. SCOTT

Copiah friends will regret to learn of the death of Dr. Z. J. Scott, retired physician of Brownsville, Tennessee, who passed away at his home April 10. following an illness of several weeks.

Dr. Scott was 88 years of age. He was born and reared in Crystal Springs and was united in marriage a number of years ago to the former Miss Louella Rotch, of the Dentville Community. He was graduated from the University of Louisiana in 1882. Dr. Scott practiced medicine at Winona, Mississippi, a number of years and served as a major in World War I. After the war, he moved to Brownsville, where he lived until his death.

Funeral services were held in Brownsville Sunday.

Survivors are his widow and six children. He is also survived by a number of cousins, many of whom live in Copiah County.

§

DR. J. E. BRUMFIELD

Funeral services were held on April 19 for Dr. J. E. Brumfield, prominent Pike County physician. He passed away at his home in Walker's Bridge community, Tylertown, Route 4.

Dr. Brumfield was 76 years of age. He was born in Amite County March 25, 1877, son of J. Monroe and Sarah Prescott Brumfield.

He had practiced medicine as a general practitioner for many years, and through his years of service to the people of Walthall and Pike Counties, he attained a position of high regard and reverent respect.

Surviving are his widow, Mrs. Hope Barr Brumfield; four children, Tommy Brumfield of Starkville, Jamie Brumfield of Liberty, Monroe Brumfield of Baltimore, Md., and Mrs. A. C. Garner, Jr., of New Orleans; two sisters, Miss Alice Brumfield of Tylertown, and Mrs. J. W. Walker of Hattiesburg; one brother, T. J. Brumfield of Sante Fe, Calif.; and six grandchildren.

§

DR. P. E. HOLLADAY

Funeral services were held at the Stephens Funeral home for Dr. Perry Ellington Holladay, 58, member of an East Mississippi medical family. The Rev. Monsignor John J. Burns, pastor of the St. Patrick's Catholic church, officiated. Burial followed in Magnolia cemetery.

Dr. Holladay graduated from Beason's College, Meridian; The University of Mississippi, Oxford, and Tulane University, New Orleans. Ill health forced him to give up his active practice about a year ago.

Survivors include his widow, Mrs. Ivon Thornton Holladay, principal of Poplar Springs school; three sisters, Mrs. W. E. Curtis and Miss Ada Holladay of Meridian and Mrs. F. C. Hulett of Greenwood; three nieces, Mrs. S. W. Wells of Jacksonville, Fla., Mrs. T. Y. Jolly of Jackson and Miss Marjorie Holladay of Meridian; two nephews, Dr. Walter R. Holladay of Philadelphia, Pa., and Eddie Holladay of Meridian.

§

DR. R. L. BENSON

Services for Dr. Raymond L. Benson, 36, were conducted from the Lucedale Methodist Church.

Dr. Benson was fatally injured in a car-truck accident five miles east of Lucedale on State Highway 15. Others injured in the accident were Mrs. Benson and Mr. and Mrs. Aubrey Blackwell, all passengers in the Benson automobile.

Dr. Benson was a member of the Lucedale Methodist Church, a Mason, and had served on the staff of the George County Hospital since its opening in September, 1950. He served during the war overseas with the Army.

He was educated at Louisiana State University, graduating in 1942.

He leaves his wife, Mrs. Louella Holston Benson, his mother, Mrs. Bess Gerald, one brother, Jack Benson, both of Elmira, N. Y.

§

DR. L. W. WALKER

Last rites for Dr. L. W. Walker of Auburn were conducted from the Mars Hill Baptist Church on April 2. A Masonic service was held. Burial was in the church cemetery.

Dr. Walker died March 30 in the McComb infirmary. He was 83, a member of the Mars Hill Baptist church and a member of Auburn Masonic Lodge.

Dr. Walker was graduated from Mississippi Medical College, Meridian, in 1908.

Survivors include his wife, Mrs. L. W. Walker of Auburn; a daughter, Mrs. J. R. Lewis, Kentwood, La.; five sons, Wayne Walker, Auburn, Dan Walker, Biloxi, Winston Walker, Conley, La., Bobby Walker, Calif., Billy Walker of the U. S. Army; three brothers, George Walker, Smithdale, Frank Walker, McComb and Benny Walker, Auburn.

Brookhaven funeral home was in charge of arrangements.

DR. M. P. JURNEY

Dr. Muldrew Prichard Jurney, beloved physician of Ackerman and County Health Officer of Choctaw County, died Tuesday night, March 10, at the Louisville Hospital after suffering a heart attack, followed by an illness of one week.

Dr. Jurney was born in Winston County, April 15, 1879, the son of a Civil War Veteran, the late Nathaniel Wallace Jurney and Jane Prichard Jurney, formerly of North Carolina. He was married to Miss Myrtle Iona Sullivan, December 22, 1908.

He attended medical school at Chattanooga Medical College at Chattanooga, Tenn., and was graduated in 1908. He began practicing medicine in Oktibbeha County in 1908, and lived and practiced there until 1931. It was in 1931 that he with his family moved to Ackerman. He has been active in his work for 45 years.

Funeral services were conducted from the Methodist Church, of which he was a member, March 11, at 3 o'clock, with the pastor, Rev. George A. Baker officiating, assisted by Rev. Sam Brown, pastor of Ackerman Baptist Church, and Rev. Mr. Tucker, friend of the family, and pastor of the Methodist Church of Aberdeen, Miss. Burial was made in the family plot in Pleasant Ridge Cemetery, near Bradley, Miss., with Adams and Weaver Funeral Home in charge.

He is survived by his wife; two daughters, Mrs. Virginia Hutchison, Arlington, Va., and Miss Willard Jurney, M. T. Grady Memorial Hospital, Atlanta, Ga.; two sons, Dr. L. M. Jurney, Oxford, Miss., and M. P. Jurney, Ackerman; four grandsons and one brother, Mr. J. A. Jurney, Starkville, and a cousin, Mr. L. M. Pritchard of Starkville.

§

INFORMATION, PLEASE!

(The following request comes from John Q. Anderson, McNeese State College, Lake Charles, La. If our readers can give him a lead, please do so.)

In 1850 there was published in Philadelphia a book entitled *Odd Leaves from the Life of a Louisiana "Swamp Doctor"* by "Madison Tensas, M.D.," a pseudonym for a medical doctor who lived and practiced in northeast Louisiana, in fact, in the parishes of Madison and Tensas, from which he took the pen name. The book is a series of humorous sketches concerning his apprenticeship to a doctor in Mississippi, his medical school days, and his practice in these parishes. Since fictitious names are used, the autobiography in the book is open to question. The Library of Congress has identified the author as Henry Clay Lewis, but scholars of American humor of the 1840's do not accept the identification for lack of conclusive proof. I have located information that leads me to believe that Henry Clay Lewis is the author, since records at Tallulah, Louisiana, show that a doctor of that name did live there at that time. He died there, in fact, in August, 1850.

The medical doctor to whom Lewis was apprenticed in Mississippi is not named, but I am led to believe that the place was Yazoo City. The Department of Archives at Jackson has been unable to furnish me with the names of medical doctors in that city during the period 1841-1846, the time that I surmise that Lewis was there. Do you have such information? Also, is there any record of such apprenticeships that might mention Lewis by name?

My intensive search for biographical information on Lewis has taken me through all of the obvious sources in Louisiana, such as libraries, archives, and newspaper files, but I still need details. Consequently, any leads are welcome. Since this book is now considered one of the best examples of American humor of its period, the positive identification of the author would contribute to the medical and literary history of the South and the nation. Therefore, any help which you may be able to give me will be most appreciated.

§

MISSISSIPPI CANCER DIVISION PIONEERS IN TELEVISION

The Mississippi Division of the American Cancer Society, for the first time in its history, had access to television and formally announced their 1953 Cancer Crusade with an interesting and highly informative program. Dr. Felix J. Underwood, State Campaign Chairman, gave the introductory address, highlighting the functions of the American Cancer Society and in a very enlightening way explained the need for funds in Mississippi and how they are used to strengthen the Crusade against man's most dreadful disease — CANCER. A patient interview was conducted by Miss Polly Brown of Station WJTV. Mrs. Jack L. Haley of Jackson, a cancer patient, in a sincere and heartwarming manner, told how she had been assisted through the service program and what the American Cancer Society had meant to her and her family.

§

PUBLIC RELATIONS TIP

A program promising medical care regardless of ability to pay, is one of the soundest Public Relations endeavors any county society could possibly undertake. To make known such a stand and to back it up may well avoid the possibility of an unfortunate human-appeal case in the future.

The House of Delegates of the A.M.A., at the December meeting, supported the Board of Trustees plea that the A.M.A. "heartily endorse such medical care programs."

"Protests have been made at various times that medical care is being denied certain individuals because of its cost. As is well known, the prime object of the medical profession is to serve humanity, regardless of reward or financial gain, and with a view to implementation of this principle a number of county medical societies have successfully conducted and publicized programs offering to provide the services of a physician to anyone unable to pay for them. . ."

§

ACTIVATES WAR

It is said that two and a half acres of land are needed to support each person. At the beginning of World War II Germany had nine-tenths of an acre; Italy, three fourths; and Japan one-fourth. As far as we know there are no more acres to discover. In the United Nations we have sixty thousand babies born each day, but we do not have the two and a half acres of land on which to set their feet. And in addition people are living longer. When Christ came, the life expectancy was about twenty years, a hundred years ago, forty years, but now seventy years approximately. In the United States we have 13,000,000 past 65 years of age. With mechanized farming one man can sometimes work 300 acres; evenso, the total production has not been materially increased for nine years. The world has never produced enough bread to feed the hungry.

§

We have heard uncomplimentary things said about Mississippi because of its poor roads. But now we have the best arterial system in the nation. It was said that we could not have a four-year medical school, but we are now on the way with one of the best. Some are saying we can not have training schools for nurses. This is a fallacy that should not be respected by thinking people. The nation will look to us in the future for a system of training schools for nurses that will lead the way. Mississippi has the best system of junior colleges in the nation. It leads in tung oil production. It has the largest pecan industry of any nation. It has the very best public health service known in the world. Its T. B. hospital is known around the world. We lead in pulpwood and are close to the top in lumber production. For white face cattle we make the world take notice. Let us not underestimate the greatness of our own state.

MEDICAL SOCIETY CALENDAR

SOCIETY	*MEETS*
Central Medical Society	First Tuesday each month. Roof Robt. E. Lee Hotel, 6:30 P. M.
South Miss. Medical Society	Second Thursday each month. Alternating, Hattiesburg and Laurel.
Tate County Medical Society	No regular meetings.
Northeast Miss. Medical Society	Second Tuesday of March, June, Sept., Dec.
Clarksdale and Six Counties	Fourth Wed. of March; Second Wed. of November., Clarksdale, Mississippi.
Coast Counties Medical Society	First Wed. each month. Alternating all over Coast.
North Miss. Medical Society	First Thurs. of January, April, July, and Oct. University unless otherwise specified.
Amite County Medical Society	First Thursday each quarter, Field Memorial Community Hospital, Centreville.
East Miss. Medical Society	Third Thurs. of March, June, Sept., and Dec. Meridian, Miss.
Tri-County Medical Society	Second Tuesday of March, June, Sept. and Dec. Brookhaven, McComb, Hazlehurst, Brookhaven (1952).
Delta Medical Society	Second Wed. of April and Oct. Cleveland, Miss., Oct. 1952. (Rotates in the 5 counties).
Wilkinson County	Second Thursday of March, June, Sept., and Dec., Field Hospital, Centreville.
Sharkey-Warren Issaquena -	Second Tuesday each month, Olde Southern Tearoom, Vicksburg.

§

YOUNG PHYSICIAN interested in group or partnership general practice in small progressive Mississippi community. Exempt from present doctor draft laws. Postgraduate training: Rotating internship. Available July 1, 1953. Interested parties reply care of this journal. 12-3tp

§

ELECTROCARDIOGRAPHER, certified, desires to interpret electrocardiograms. Replies by return mail same day. $1.50 per interpretation. Write Box No. 2, *The Mississippi Doctor*, Booneville, Miss. 3t

Woman's Auxiliary

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COAST WELCOMES US

A cordial invitation comes from the members of the Coast auxiliaries to attend all the meetings and social features planned for the entertainment of doctors' wives.

AUXILIARY

PROGRAM

Hotel Buena Vista, May 11-13, 1953

Mrs. R. H. Clark, Hattiesburg, State President

Mrs. S. Lamar Bailey, Kosciusko. President-Elect

Mrs. D. L. Hollis, Biloxi, President. Woman's Auxiliary, Coast Counties Medical Society.

Mrs. P. E. Werlein, Biloxi, General Chairman, 30th Annual Session, Woman's Auxiliary

HOSPITALITY ROOM

Members of the Auxiliary and their guests are cordially invited to visit the Auxiliary Hospitality Room in the Hotel Buena Vista which will be open for their convenience.

Monday, May 11

8:00 p.m.—Pre-Convention Board Meeting, Card Room

Tuesday, May 12

8:30 a.m.—Registration, Lobby

9:30 a.m.—Open Session, The Deck, Mrs. Richard H. Clark, Hattiesburg, presiding
Invocation—Mrs. John T. Lane, Biloxi
Membership Pledge—Mrs. George W. Owen, Jackson
Address of Welcome—Mrs. P. E. Werlein, Biloxi
Response—Mrs. Leonard Posey, Jackson
Presentation of Convention Chairman—Mrs. D. L. Hollis, Biloxi
Introductions
Report from A. M. A. Auxiliary Meetings — Mrs. Harvey F. Garrison, Jackson
Report from S. M. A. Auxiliary Meetings — Mrs. W. H. Anderson, Booneville
Roll Call
Report of President
Report of Auxiliary Presidents, Officers, and Chairmen
Credentials and Registration—Mrs. Eldon L. Bolton, Biloxi
Adjournment

12:30 p.m.—Luncheon, Broadwater Beach Hotel, Mrs. Richard H. Clark, presiding
Invocation—Mrs. E. T. Rieman, Jr., Gulfport
Greetings from Auxiliary to S. M. A.—Mrs. Stanley A. Hill, Corinth, President-Elect
Style Show—Music

4:00 p.m.—Flower Arranging, Lobby Parlor, Hotel Buena Vista
By Mrs. B. B. O'Mara, Biloxi; Mrs. Gilruth Darrington, Yazoo City; Mrs. John B. Howell, Jr., Canton

Wednesday, May 13

7:30 a.m.—Past Presidents Breakfast, Sun Parlor, Mrs. George W. Owen, Hostess

8:30 a.m.—Registration, Lobby

9:00 a.m.—General Session, The Deck, Mrs. Richard H. Clark, presiding
Invocation—Mrs. R. C. Eley, Moss Point
Greetings from Lamar Arrington, M.D., President, M.S.M.A.
Greetings from M. Q. Ewing, M.D., President-Elect, M.S.M.A.
Memorial Service—Mrs. Gilruth Darrington
Roll Call
Reading of Minutes
Greetings from Auxiliary to A.M.A.—Mrs. Ralph Eusden, President, Long Beach, California
Recommendations from the Board
Business
Report of Nominating Committee
Election of Officers
Appointment of Delegates to A.M.A.
Credentials and Registration—Mrs. Eldon L. Bolton
Adjournment

12:00 n.—Doctor's Day Luncheon, Buena Vista Dining Room, Mrs. Richard H. Clark, presiding
Invocation—B. Z. Welch, M.D., Biloxi
Introductions—Walter C. Jones, M.D., President, S.M.A., Miami, Fla.

Address

1:30 p.m.—Installation of New Officers—Mrs. Ralph Eusden, President, Auxiliary to A.M.A.
Presentation of Gavel and President's Pin
Response of Incoming President—Mrs. Lamar Bailey, Kosciusko

2:00 p.m.—Post-Convention Board Meeting, Mrs. Lamar Bailey, presiding

The Mississippi Doctor

Official Organ of the

Mississippi State Medical Association

and the

Mid-South Postgraduate Medical Assembly

W. H. Anderson, M.D., Editor-in-Chief
Mildred P. Anderson, Assistant Editor

INDEX

JUNE, 1952 — MAY, 1953

VOLUME 30

Published at Booneville, Mississippi

AUTHOR INDEX

Adams, Jerald E., Jr. 344
Adams, Lorenzo H. 292
Adams, William Milton (photo) 183
Adams William Milton 292
Anderson, William Jefferson (deceased), (biog.) 350
Archer, George F. 213
Arrington, Lamar (photo) 415
Atkinson, Jack A. 201
Austin, L. B. (death of) 322
Backstrom, John Garner (biog.) 259
Bailey, Mrs. S. Lamar (photo) 426
Barksdale, John Woodson (biog.) 348
Barnett, Abner Jones (death of) 106
Barr, John S. 173
Baskervill, George (biog.) 259
Batson, Randolph 132
Bayon, Philip J. 299
Bennett, James (death of) 422
Benson, R. L. (death of) 423
Berman, Maxwell D. 25
Blakey, Durward L. (photo) 417
Bolton, E. L. (biog.) 415
Bortz, Edward L. 35
Boswell, H. P., Sr., (death of) 357
Brown, Donovan C. 9
Brown, Lester A. (photo) 416
Broyles, Nash Woods (biog.) 380
Brumfield, J. E. (death of) 422
Brumfield, Robert H. 99
Bryan, Giles Sanford (biog.) 258
Bryant, Richard D. 81
Buck, Camellus O. (death of) 106
Caldwell, R. B. (photo) 354
Carter, F. Bayard (photo) 417
Clark, Mrs. R. H. (photo) 30, 426
Clark, Walter Eugene (biog.) 380
Clerf, Louis H. 391
Cooke, Gaines L. 115
Cooper, Samuel Emerson (deceased), (biog.) 381
Costley, Linfield (biog.) 314
Crawford, W. W. (photo) 227
Crook, Jere (photo) 227
Dampeer, Joseph H. (death of) 106
Davis, Charles Daniel (biog.) 315
Dickins, William Butts (deceased), biog.) 380
Doty, Arthur Murphy (deceased), (biog.) 315
Dye, Thomas Melville (biog.) 220
Dyer, John D. 94
Eberling, E. W. 92, 141, 338, 406
Eggleston, S. A. (death of) 149
Elcy, R. Cannon 364
Erwin, W. L. (death of) 28
Evans, William Augustus (deceased), biog.) 412
Ewing, M. Q. 85
Farrar, Charles O'Conner (biog.) 349
Foster, James R. 244
Fountain, Noah W. 388
Fox, Lee Thomas (biog.) 350
Gamble, Hugh A. (photo) 386
Garrison, Harvey F. 382, 410
Gaudet, Lucien Sydney (biog.) 315
Gay, Fred S. (death of) 321
Gilfoy, Mrs. Karenza 143
Gillespie, G. Y. 97
Godwin, Bonita 296
Gray, A. L. 246
Griffin, Dale H. (death of) 322
Grulee, Clifford G. 64
Gunn, J. S. (death of) 357
Guyton, Arthur C. 68
Hailey, J. H. (death of) 149
Hardy, James D. 279
Harris, Seale (biog.) 411
Hauser, F. W. 138
Herring, A. Lynn 167
Hightower, George David (biog.) 348
Hightower, Lewis Henry (biog.) 379
Hitt, James Peter (deceased), (biog.) 379
Holladay, P. E. (death of) 423
Hollis, Mrs. D. L. (photo) 426
Hollowell, Fred D. (photo) 416
Hopper, H. P. (death of) 28
Horton, Wade H. (death of) 106
House, Howard P. 197
Houston, T. D. (death of) 230
Huey, Thomas Wang (biog.) 314
Hughes, Edward C. 44
Israel, S. Leon 327
Izard, Samuel Edward (deceased), (biog.) 259
Johns, William Alexander (biog.) 314
Johnson, Cyrus C. 331
Johnson, Earle (death of) 322
Jones, Dudley Watson (biog.) 257
Julich, A. Wilson 12
Jurney, M. P. (death of) 423
Key, Elmore Benjamin (deceased), (biog.) 381
Kittrell, John Robert (biog.) 381
Knight, S. L. (death of) 192
Labecki, Thaddeus D. 421
Lamar, J. N. (death of) 230
Land, William Alonzo (biog.) 314
Lauderdale, J. A. 73, 416
Lehmberg, Charles E. (death of) 149
Lipscomb, James Walton (biog.) 218
Lipscomb, J. W. (death of) 388
Little, William Lee (biog.) 219
Locke, John S. (death of) 106
Longino, John Thomas (biog.) 260
Lucas, John F. 215, 417
Lutterloh, P. W. (death of) 29
Mackenzie, C. F. (death of) 28
Martin, Raymond S., Jr. 211
Marland, Thomas J. 240
Matas, Rudolph (biog.) 411
Mathis, Edward Jones (biog.) 350
Mayfield, M. Frances 311
McClain, John (death of) 388
McConnell, J. E. 303
McCullough, F. E. 249
McDonald, D. W. (death of) 192
McDonald, P. Robb (photo) 416
McEwen, F. J. 393
McGee, Robert Ray 335
McHardy, Gordon 9
McKinnon, Hugh Lawson (biog.), (photo) 220, 319
McLean, Sam Hoskins (biog.) 349
McMillan, Mose McCarley (biog.) 257
Mecklin, H. H. (death of) 77
Milam, John 89
Miller, J. E. 127
Moody, J. W. (death of) 28
Mullens, J. R., Jr. 403
Murry, C. M. 171, 306
Nash, N. L. (death of) 230
Nease, L. L. (photo) 319
Neill, Charles L. 176
Nichols, J. L. (death of) 28
O'Mara, B. B. (photo) 415
O'Neal, K. Ramsey 374
O'Neil, Lawrence J. (photo) 415
Owen, Harbert Claude (biog.) 379
Parnell, Carter Cimmie (death of), (biog.) 77, 348

Parsons, Ira (death of) 322
Pearson, W. W. 403
Peeples, R. H. 341
Pirkey, Everett Leighton (photo) 416
Polk, Lonney (death of) 357
Polk, W. S. (death of) 322
Posey, E. L. 57
Quin, Murry DeWitte (death of) 422
Reid, Lee R. 15
Ricks, Fred L. (death of) 230
Robertson, George Washington (deceased), (biog.) 260
Robinson, Charles G. 288
Royals, James L. 121
Rush, Leslie V. 73
Sanders, John Summerfield (death of), (biog.) 28, 258
Schmitz, Herbert E. 163
Shumacker, Harris B. 159
Shumacker, Harris B., Jr. 4
Scott, Z. J. (death of) 422
Scudder, Walter Howard (biog.) 219
Sharp, Robert F. (photo) 415
Shields, Joseph Dunbar (biog.) 412
Simmons, C. L. (death of) 29
Slaughter, J. O. (in memoriam) 192
Smith, Francis Michael (biog.) 257
Smith, H. P. (death of) 230
Smith, H. T. (photo) 267
Smith, J. Ray 136
Snelling, M. M. 369, 397, 415
Stacy, Virginia 17
Stauss, H. K. 251
Stewart, Joseph S. 53
Stone, John Henry (deceased), (biog.) 258
Street, A. 179
Tatum, F. K. 308
Taylor, Chas. D. (photo) 415
Taylor, W. W. 12, 286
Thompson, James Grant 19
Thornhill, William Thomas (in memoriam) 150
Tyrone, Curtis (photo) 417
Underwood, Felix J. 179, 265, 351, 382, 413
Walker, L. W. (death of) 423
Walker, Richard P. 288
Werlein, Mrs. P. E. (photo) 426
White, Alvyn W. 235
Wiener, William B. 255
Wilkins, Lawson 1, 107
Wilkins, Robert W. 359
Wilkinson, Robert J. (photo) 190
Williams, Claiborne 155
Williams, Hiram Griffith (biog.) 259
Williams, Joshua Rice (biog.) 218
Williamson, Paul 51, 180, 372
Wilson, Harwell 316
Wilson, Joseph Crawford 208
Wilson, T. E. (photo) 416
Winship, Theodore 296
Yates, Claude (death of) 357
Young, Lawrence E. 204
Zollinger, Robert M. 323
Zussman, Bernard M. 110

SUBJECT INDEX

Adolescence
—constitutional variations of development (L. Wilkins) 107
Allergy
—use and abuse of ACTH and cortisone in treatment (B. M. Zussman) 110
Amebiasis
—in a rural community in Mississippi (M. Frances Mayfield) 311
Amenorrhea
—S. Leon Israel 327
Anesthesia
—analgesia and anesthesia with new agent (J. Ray Smith) 136
Auricular Fibrillation
—Robert R. McGee 335
Backache
—lumbar region, low back pain (Joseph Crawford Wilson) 208
Bacteriology
—importance of in small hospitals, rural areas (E. W. Eberling) 92
Biopsies
—cervicitis, a plea for routine biopsy (M. M. Snelling) 369
Blood
—sugar, unusually high (case report) (Maxwell D. Berman) 25
—transfusion therapy, some newer aspects (Lawrence E. Young) 204
Blood Pressure, High
—combination of drugs in treatment of (Robert W. Wilkins) 359
—current drugs used in treatment of (W. W. Taylor and A. Wilson Julich) 12
Brucellosis
—see: Undulant Fever
Cancer
—relationship of malignancy of the cervix to supracervical hysterectomy (George F. Archer) 213
—the cervix (James L. Royals) 121
—the treatment of carcinoma of cervix (Herbert E. Schmitz) 163
Caesarean Section
—indications for (F. W. Hauser) 138
—review of (William B. Wiener) 255
Chest
—see: Thorax
Colon
—rupture from air insufflation-death (L. V. Rush and J. A. Lauderdale) 73
Diabetes
—treatment by the general practitioner (Charles G. Robinson and Richard P. Walker) 288
Drugs, Hypotensive
—present status of in surgery (Thomas J. Marland) 240
Ear
—otitis media with effusion (C. M. Murry) 171, 306
Editorials
26, 76, 100, 124, 145, 182, 221, 266, 317, 352, 383
Editorials (Guest)
179, 265, 316, 351, 382, 413
Endocrine Glands
—disorders encountered in private practice (E. L. Posey) 57
Face, Injuries
—primary treatment of by the general surgeon (Jack A. Atkinson) 201
Fistula
—oromaxillary (Philip J. Bayon) 299
Fluids
—practical points in electrolyte balance (G. Y. Gillespie) 97
Head
—management of injuries (Charles L. Neill) 176
Hearing
—modern management of loss (Howard P. House) 197
Heart
—care of in elderly people (F. J. McEwen) 393

—differential diagnosis of bronchial and cardiac dyspneas (James R. Foster) 244
—the unpredictable nature of coronary artery disease, pitfalls in diagnosis and treatment (Gaines L. Cooke) 115
—treatment of the postthrombotic state (Harris B. Schumacker) 159
—treatment of disturbances of rate and rhythm (F. K. Tatum) 308

Hemangiomas
—treatment of (W. Milton Adams and Lorenzo H. Adams) 292

Hemophilia
—experiences in management of (E. W. Eberling) 338

Hepatitis, Infectious
—in children (J. R. Mullens, Jr., and W. W. Pearson) 403

Hospitals
—Mississippi Baptist Hospital (Mrs. Karenza Gilfoy) 143

Hypothyroidism
—in childhood (Lawson Wilkins) 1

Hysterectomies
—surgical management of (John D. Dyer) 94

Infants
—colic in (Clifford G. Grulee, Jr.) 64
—vomiting in (and childhood) (R. Cannon Eley) 364

Interpreting Medical Literature 31, 78, 107, 151, 193, 231

Institutions
—Ellisville State School (no author) 274

Intestines
—roentgen manifestations of obstruction (J. E. Miller) 127

Jaundice
—indications for surgery (Robert M. Zollinger) 323

Kidneys, Disease
—physiology of (Arthur C. Guyton) 68

Liver
—management of cirrhosis of (John Milam) 89

Medical, School
—ground-breaking, medical school 268

Medicine
—of Thee We Sing (Joseph S. Stewart) 53
—physician, the personal (Paul Williamson) 51
—the Forgotten Man of (Paul Williamson) 372
—training for general practice (Paul Williamson) 180

Menopause
—hormones, use and misuse of (Virginia Stacy) 17

Metabolism
—recent advances in nutrition (E. W. Eberling) 405

Mississippi State Board of Health
—medical libraries and medical achievements 32
—the birthplace of county health work in Mississippi 126

Mississippi State Medical Association
—Amite-Wilkinson medical society 419
—distinguished service oration on the life of Waller Smith Leathers (J. P. Wall read by Henry Boswell) 22
—Fifty Year Club 218, 414
—Issaquena-Sharkey-Warren society 103
—Northeast holds meeting 77
—President's Address 19
—State meeting (program) 415
—Woman's Auxiliary 29, 79, 153, 194, 233, 358, 389, 425

New Drugs, New Devices, New Digests 261, 312, 346, 378, 409

Pediatrics
—abstract (literature) (Harvey F. Garrison) 382, 410
—gastro-intestinal bleeding (Alvyn W. White) 235

Petrositis
—acute and mastoiditis in a patient presenting certain unusual diagnostic and therapeutic problems (E. W. Eberling) 141

Poliomyelitis
—practical management of (Randolph Batson) 132
—resume of recent research findings (A. L. Gray) 246

Pregnancy
—changing trends in prenatal care (Claiborne Williams) 155
—delivery, premature, conduct of (K. Ramsey O'Neal) 374
—etiology and treatment of postpartum hemorrhage (Edward C. Hughes) 44
—management of toxemias (Richard D. Bryant) 81

Retirement
—challenge of (Edward L. Bortz) 35

Roentgen Rays
—as a diagnostic aid (R. H. Peeples) 341

Skin
—rashes in eruptive fever, differential diagnosis (Jerald E. Adams, Jr.) 344

Surgery
—industrial, multiple uses of processed tung oil (M. Murph Snelling) 397
—preparation of the patient for (James D. Hardy) 279
—thrombo-embolism following (John S. Barr) 173

Sympathectomy
—an evaluation of lumbar, peripheral vascular disorders (Raymond S. Martin, Jr.) 211

Thoracoplasty
—self retaining retractors for scapula and sacrospinal muscle bundles (Lee R. Reid) 15

Thorax
—chest pain simulating coronary pain (W. W. Taylor 286
—current detection of chest diseases (H. K. Stauss) 251
—physiology and management of penetrating chest wounds (M. Q. Ewing) 85

Thrombosis
—acute venous, management of (Harris B. Shumacker, Jr.) 4

Tuberculosis
—the medical management of (J. E. McConnell) 303

Tumors
—of the neck (Louis H. Clerf) 391
—papillomas, breast (Theodore Winship and Bonita Godwin) 296

Ulcer
—status of antacid therapy (Gordon McHardy and Donovan C. Brown) 9

Undulant Fever
—occular, brucellosis (F. E. McCullough) 249

Urethra
gynecological aspects of (John F. Lucas) 215

Urinary Tract
—infections, non-specific (Cyrus C. Johnson) 331
—some urologic problems encountered in practice (A. Lynn Herring) 167

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